



národní  
úložiště  
šedé  
literatury

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

Beránek, Tomáš  
2017

Dostupný z <http://www.nusl.cz/ntk/nusl-354692>

Dílo je chráněno podle autorského zákona č. 121/2000 Sb.

Tento dokument byl stažen z Národního úložiště šedé literatury (NUŠL).

Datum stažení: 26.09.2017

Další dokumenty můžete najít prostřednictvím vyhledávacího rozhraní [nusl.cz](http://nusl.cz) .

# Transition-Metal Complexes with Helical Phosphines

*Student: Ing. Tomáš Beránek*

*Supervisor: Ing. Jan Sýkora, Ph. D.*

*Supervising Expert: RNDr. Jaroslav Žádný, Ph. D.*

Due to their remarkable properties, helicenes are suitable candidates for use in asymmetric catalysis. Among privileged ligands exhibiting central, axial, or planar chirality, the 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.<sup>1</sup>

This work follows the synthesis of the palladium (II) complex with 9-phosphanyl[7]helicene, where several structural uncertainties were clarified. Furthermore, synthetic pathways were investigated to provide other suitable phosphine derivatives of [6]helicene and their transition metal complexes. In prepared complexes, the influence of phosphine group position on the catalytic activity of helicene complexes was examined.

Attempts on enantiomeric resolution of prepared helicenes were also carried out.

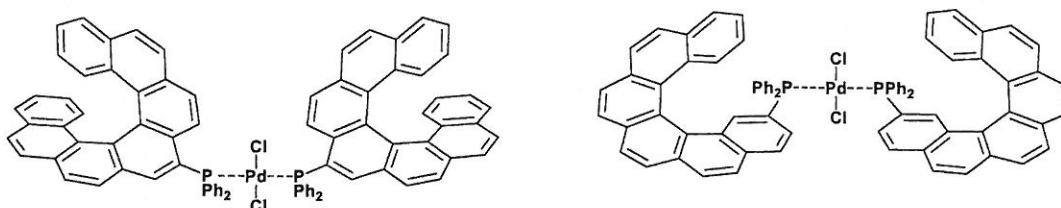


Figure 1 – Transition-metal complexes with helical phosphines

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

## References

1. Aillard, P.; Voituriez, A.; Marinetti, A. *J. Chem. Soc., Dalton Trans.* **2014**, *41*, 15263–15278.