

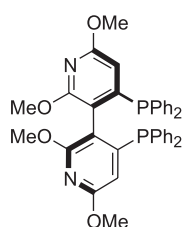
# Asymmetric Hydrogenation Ligand/Catalyst Kit

**Alfa Aesar**<sup>®</sup>  
A Johnson Matthey Company

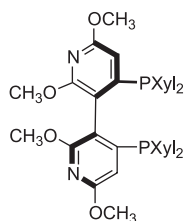
## TWELVE PIECE SAMPLE KIT (STOCK #44780)

- Contains products that are commercially available and IP accessible
- Excellent tool for screening projects
- Each kit contains 500mg of both enantiomers of each ligand and 100mg each of the preformed catalysts
- Individual ligands and catalysts are also available from stock

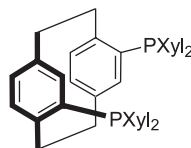
## LIGANDS



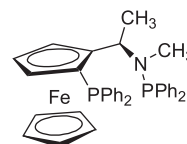
**(R)-P-Phos #44610**  
**(S)-P-Phos #44609**



**(R)-Xyl-P-Phos #44613**  
**(S)-Xyl-P-Phos #44614**

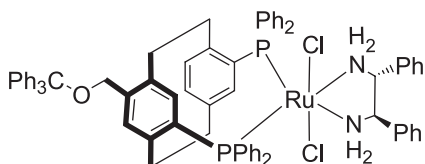


**(R)-Xyl-PhanePhos #44615**  
**(S)-Xyl-PhanePhos #44616**

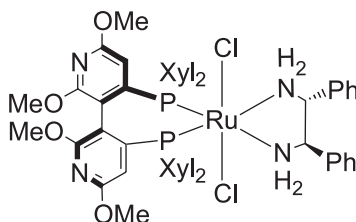


**(R)-Me-BoPhos™ #44684**  
**(S)-Me-BoPhos™ #44685**

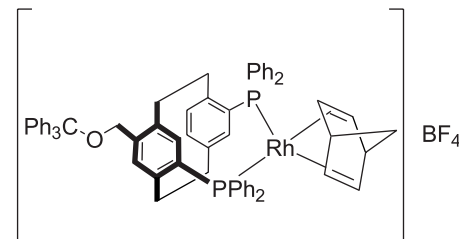
## CATALYSTS



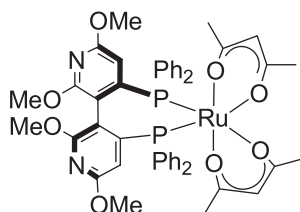
**(S)-Paraphos RuCl<sub>2</sub> (R,R)-DPEN #44803**



**(R)-Xyl-P-Phos RuCl<sub>2</sub> (R,R)-DPEN #44802**



**[(S)-Paraphos Rh(NBD)]BF<sub>4</sub> #44801**



**(R)-P-Phos Ru (acac)<sub>2</sub> #44800**

These materials may be handled and weighed in air but are best stored under inert condition. Controlled reaction conditions are required, i.e. degassed solvents. It is recommended that the catalysts are studied in a selection of solvents. The Ru-diamine catalysts should be tested under anhydrous conditions with a selection of bases in isopropanol.

BoPhos is a trademark of Eastman Chemical Company.

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