Chiral Ruthenium Catalyst for Enantioselective Cyclopropanation

Ru(II)-(S)-Pheox Catalyst

[R0196]

**Advantages**
- Easy-to-handle crystalline solid
- Applicable for enantioselective carbene transfer reactions to give optically active cyclopropanes
- The reaction proceeds under mild conditions

**R0196** is a chiral phenyloxazoline-ruthenium(II) complex, developed by Iwasa et al. R0196 shows highly enantioselective cyclopropanation of various olefins using diazoacetates1-6,8) or diazomethylphosphonates.7,8) R0196 is a promising reagent for optically active cyclopropane derivatives which are present in a number of medicinally relevant compounds. In addition, R0196 is also used for an enantioselective Si–H insertion reaction of α-diazo esters.9)

**Ru(II)-(S)-Pheox Catalyst**

200mg / 1g [R0196]

This product was produced by collaboration with Prof. Iwasa, Toyohashi University of Technology.

**Related Product** (S)-Pheox

1g / 5g [D5368]

For further information please refer to our website at www.TCIchemicals.com. 

Chiral Ruthenium Catalyst for Enantioselective Cyclopropanation

Introduction of the Researcher

Iwasa Laboratory
Department of Environmental and Life Sciences, Toyoashi University of Technology

Research Description

The Iwasa group aims to design and synthesize new chiral transition-metal catalysts for asymmetric synthesis. These newly designed chiral ligands, a series of chiral bis(oxazolyl)pyridine and phenyl oxazolines (Pheox) derivatives, can be used to efficiently synthesize bioactive organic compounds. Especially, Ru(II)-Pheox is found to be a powerful chiral catalyst for carbene transfer reactions for enantioselective cyclopropanations and enantioselective N–H or Si–H insertion reactions. Furthermore, a class of Ru(II)-Pheox catalysts can feature various substituents on the ligand backbone to control the electron density on the metal center and water-solubility.