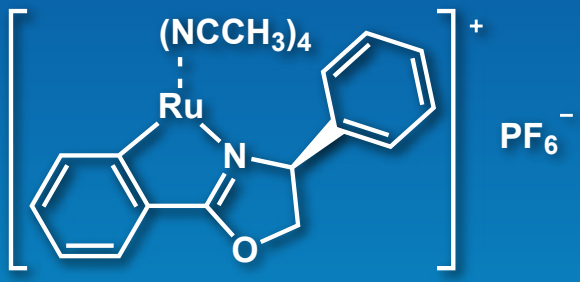
New

Chiral Ruthenium Catalyst for Enantioselective Cyclopropanation

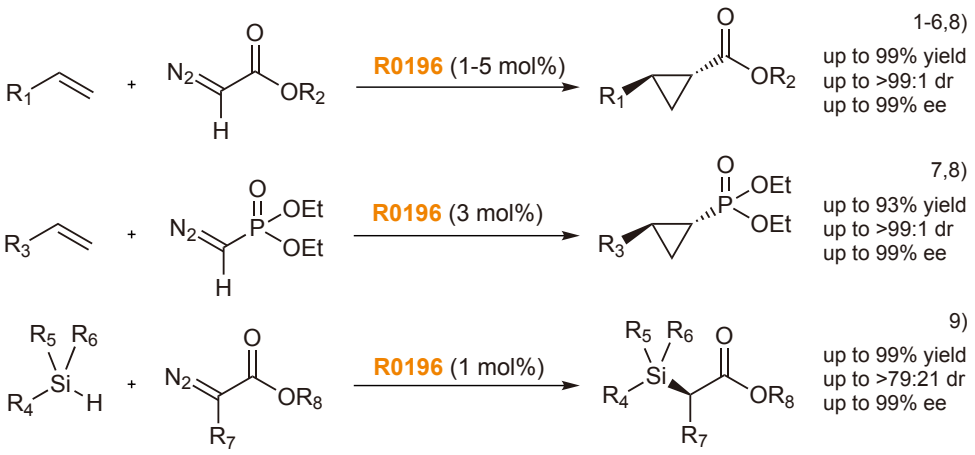


Ru(II)-(*S*)-Pheox Catalyst
[R0196]

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 diazoacetates[1-6,8] 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]



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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 catalysts

Chiral Ruthenium Catalyst for Enantioselective Cyclopropanation

Introduction of the Researcher

Iwasa Laboratory

**Department of Environmental and Life Sciences,
Toyohashi 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(oxazolinyl)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.

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