

Asymmetric Oxidation Catalysts

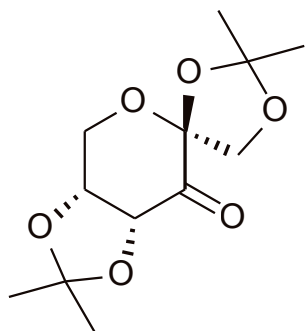
D-Epoxone

D-Epoxone was developed by Professor Shi at Colorado State University in 1996. It is very effective in the asymmetric epoxidation of transalkenes and is one of the most useful catalysts for the synthesis of pharmaceuticals.

D-Epoxone is synthesized from D-fructose.

However, this known synthetic method has been difficult to industrialize from the viewpoints of environmental impact, safety, and economy.

We have established an industrial production method without the use of heavy metals to solve these problems.

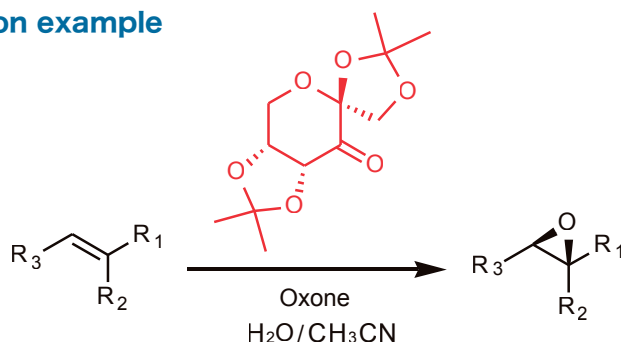


D-Epoxone

CAS No. 18422-53-2

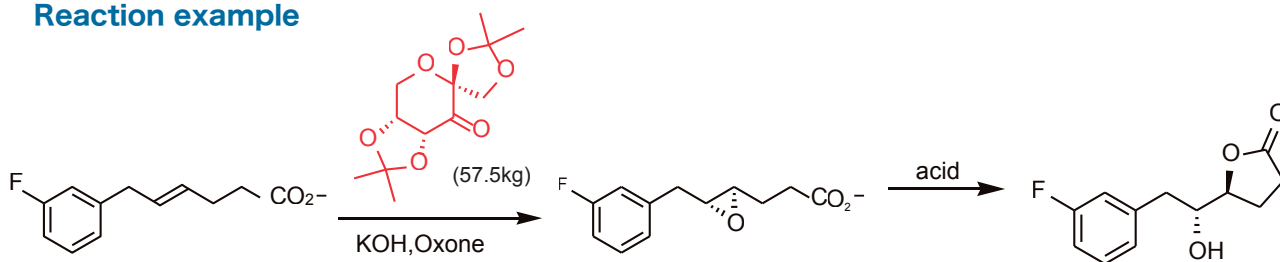
appearance	White powder
Spec	Over GC 99.0 area%
	Specific rotation : $-122.0 \pm 1.5^\circ$
	Melting point : $102 \sim 106^\circ\text{C}$

Reaction example



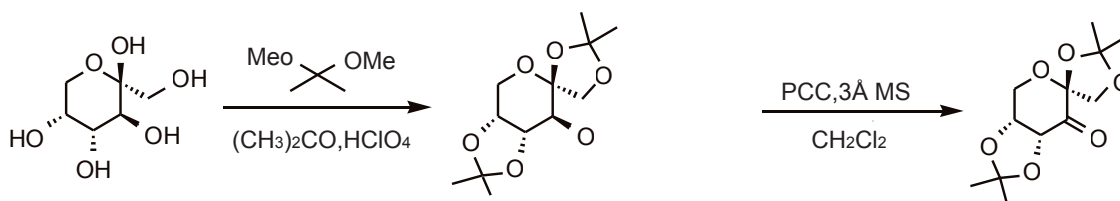
Tu, Y., Wang, Z.-X., Shi, Y.
J. Am. Chem. Soc. **1996**, 118, 9806.

Reaction example



63% Yield, 88%ee

Synthesis example



Org. Synth. **2003**, 80, 1.