

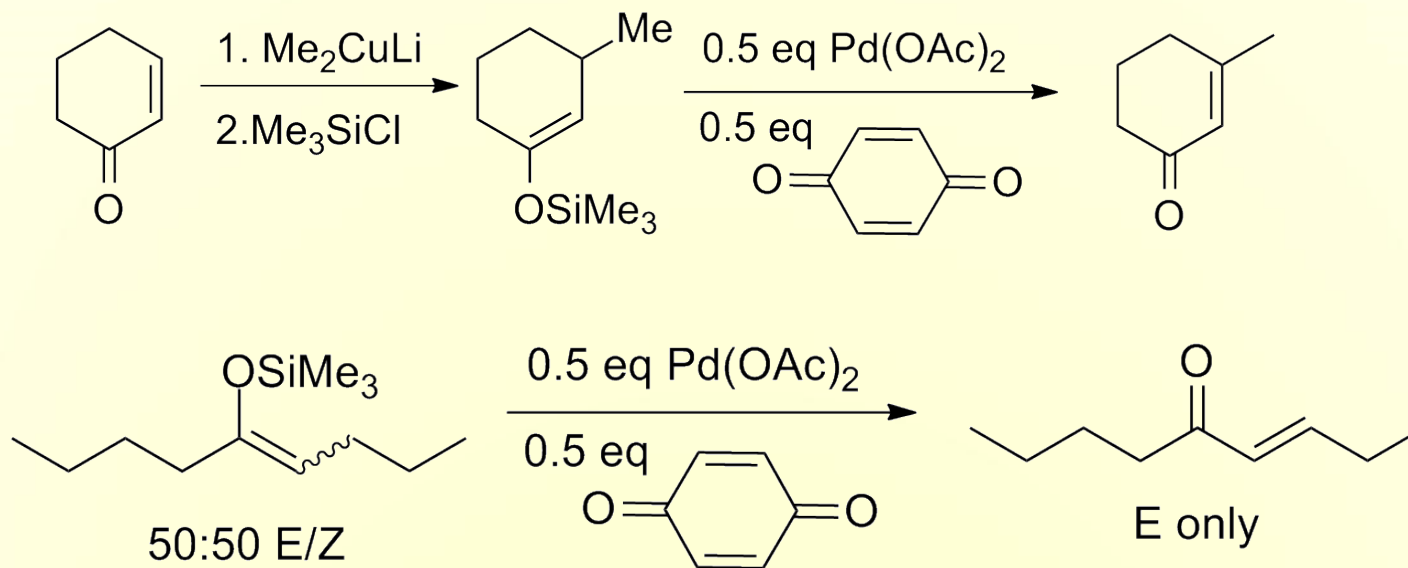
SAEGUSA OXIDATION

2017-05-09

WZQ

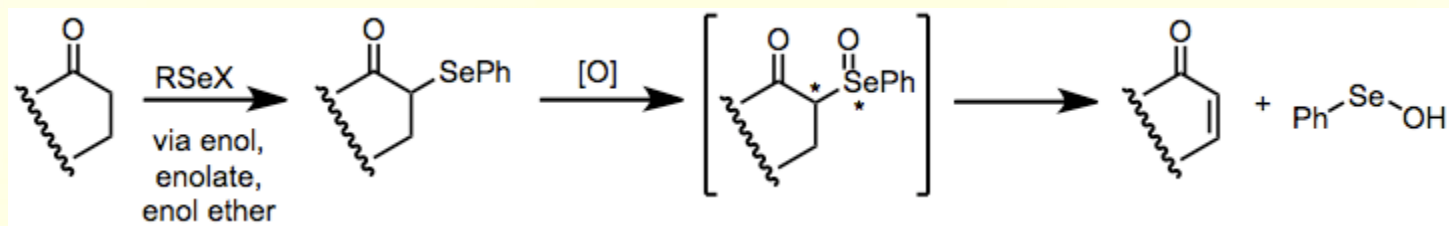
SAEGUSA OXIDATION

Saegusa oxidation or Saegusa–Ito oxidation is a chemical reaction discovered in 1978 by Takeo Saegusa (三枝武夫) and Yoshihiko Ito (伊藤嘉彦) as a method to introduce α - β unsaturation in carbonyl compounds

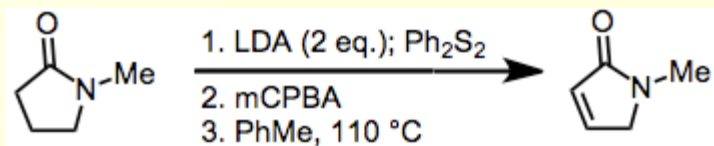


SAEGUSA OXIDATION

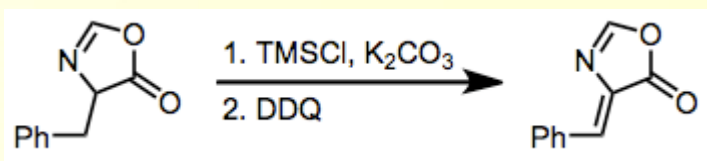
Selenoxide elimination



sulfoxide eliminations

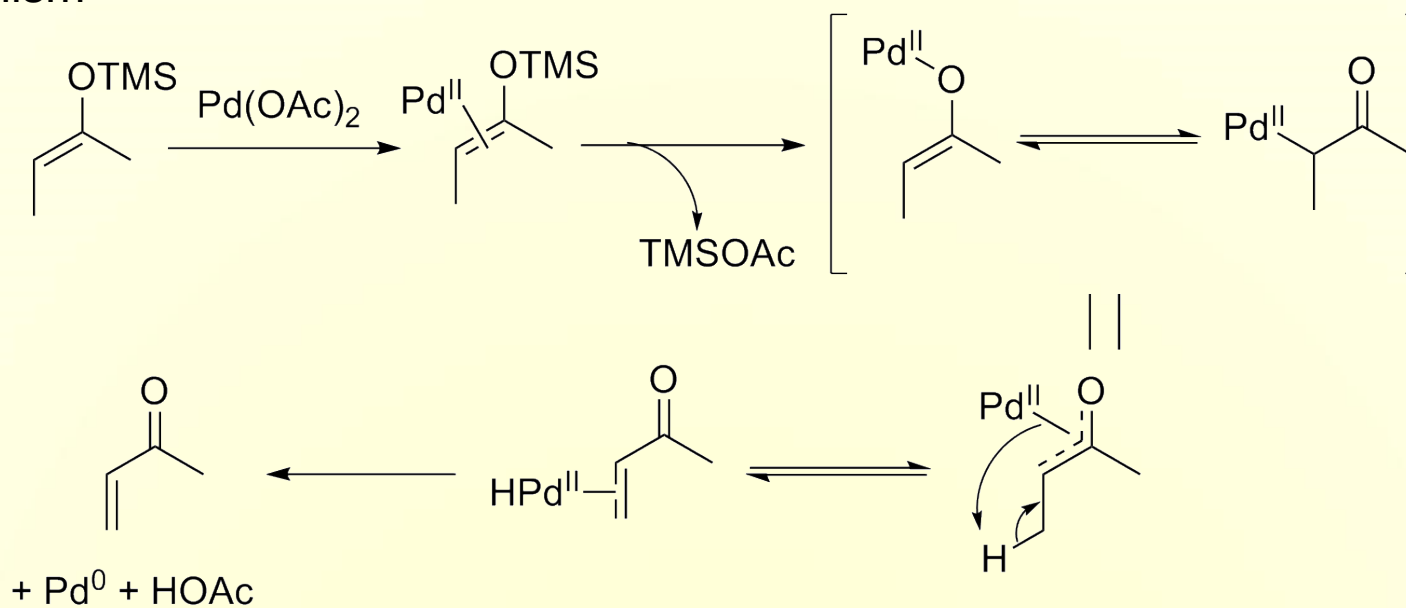


DDQ oxidation.



SAEGUSA OXIDATION

Mechanism



SAEGUSA OXIDATION

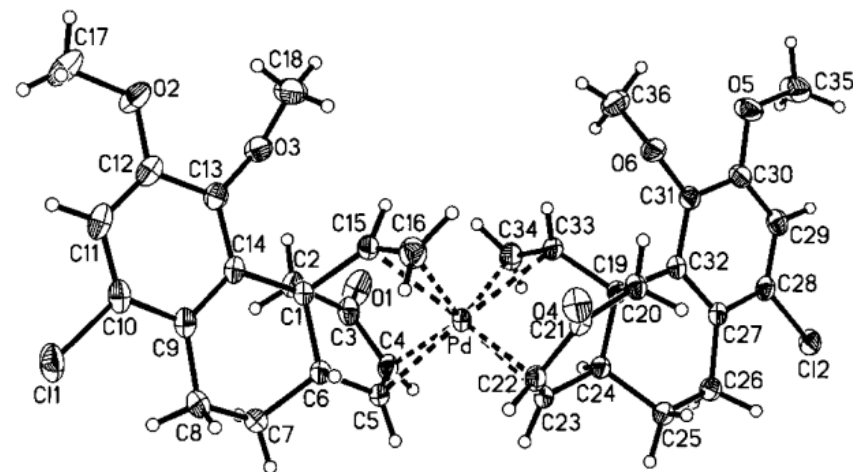
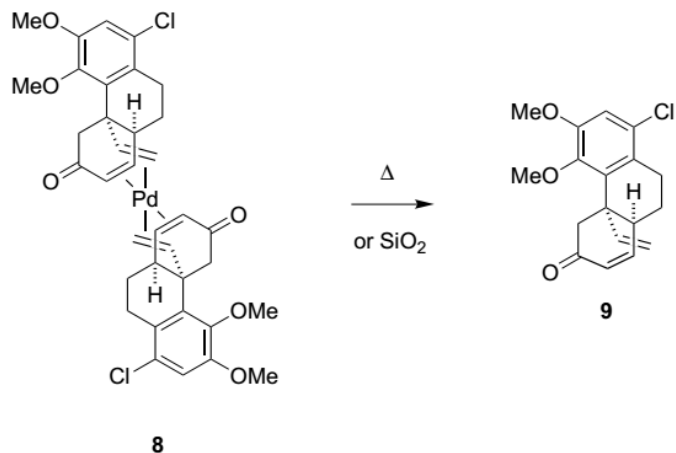
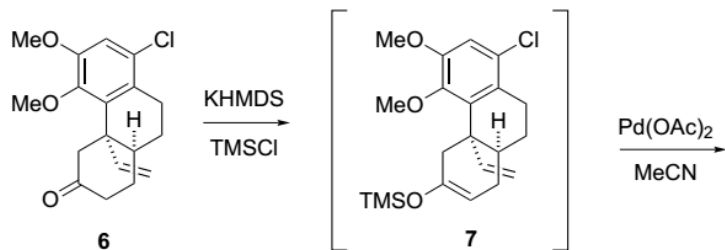
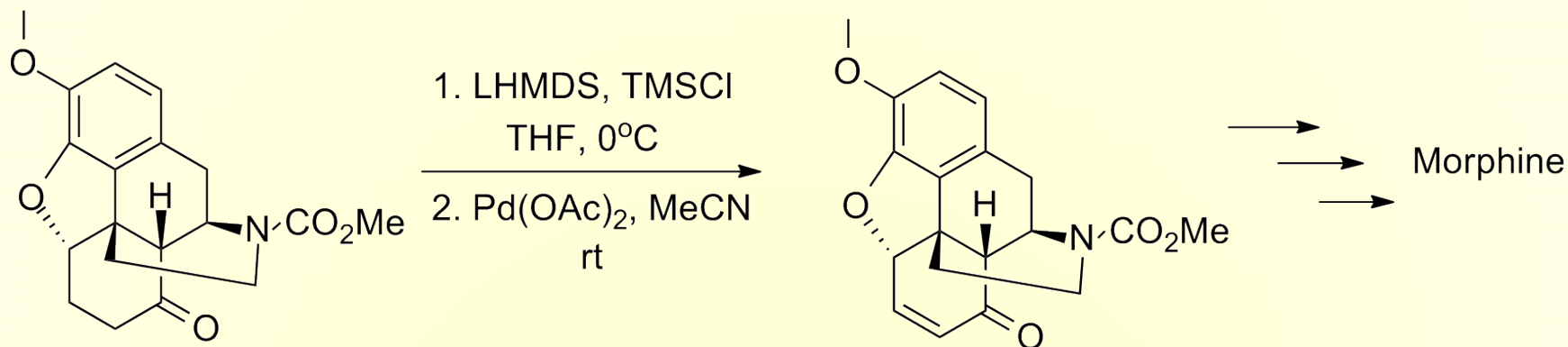
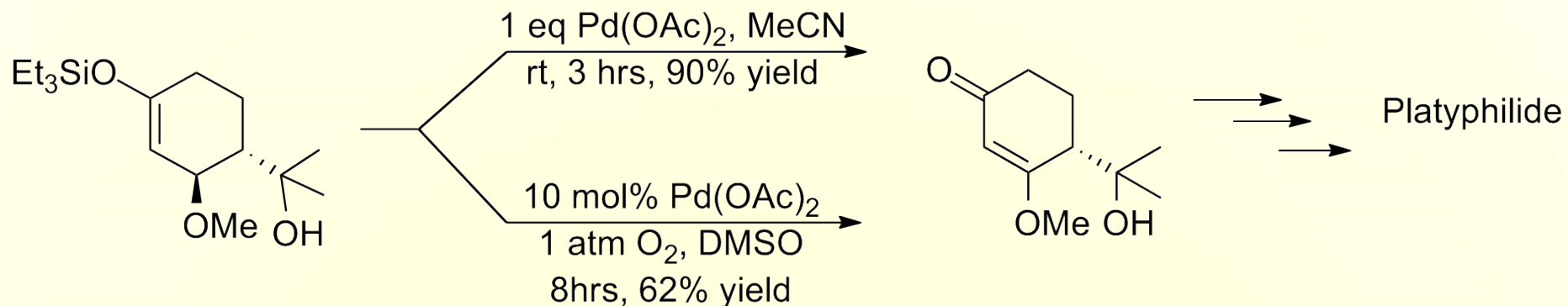


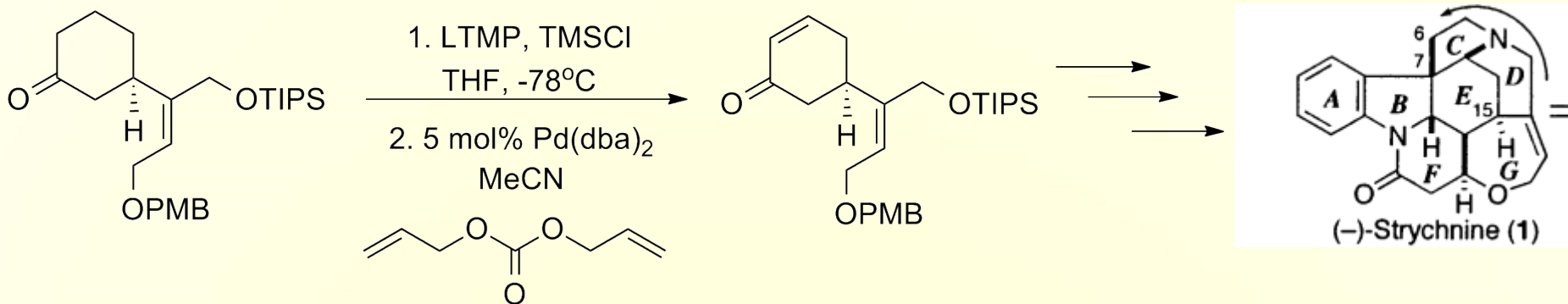
Figure 1. Structure of **8** in the crystal.

SAEGUSA OXIDATION



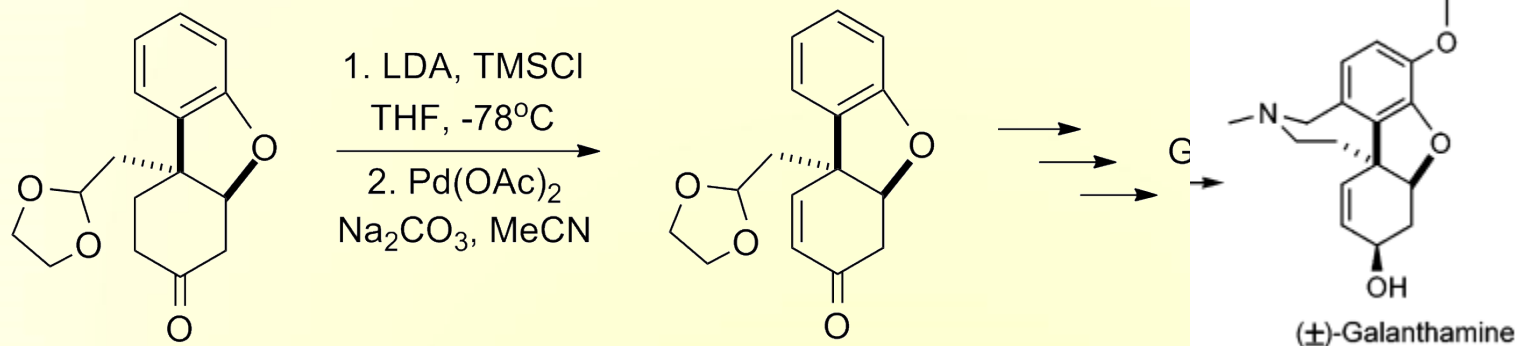
Uchida, K.; Yokoshima, S.; Kan, T.; Fukuyama, T. (2006), "Total Synthesis of (±)-Morphine", *Organic Letters*, 8: 5311,

SAEGUSA OXIDATION



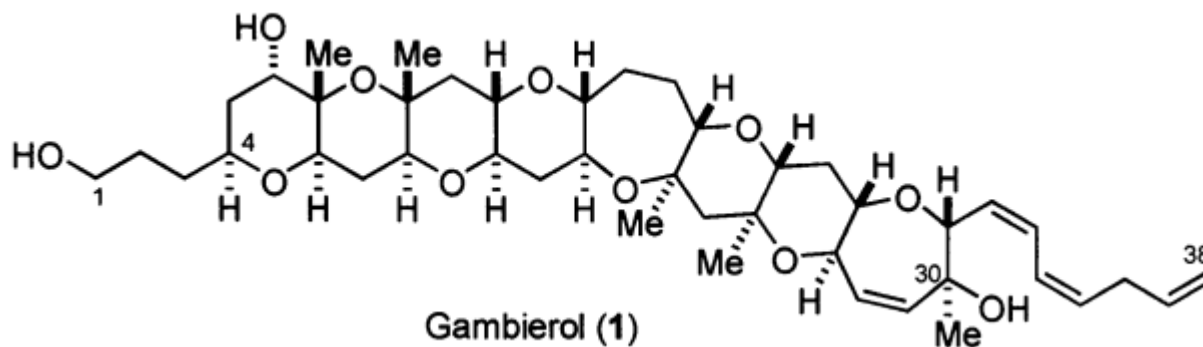
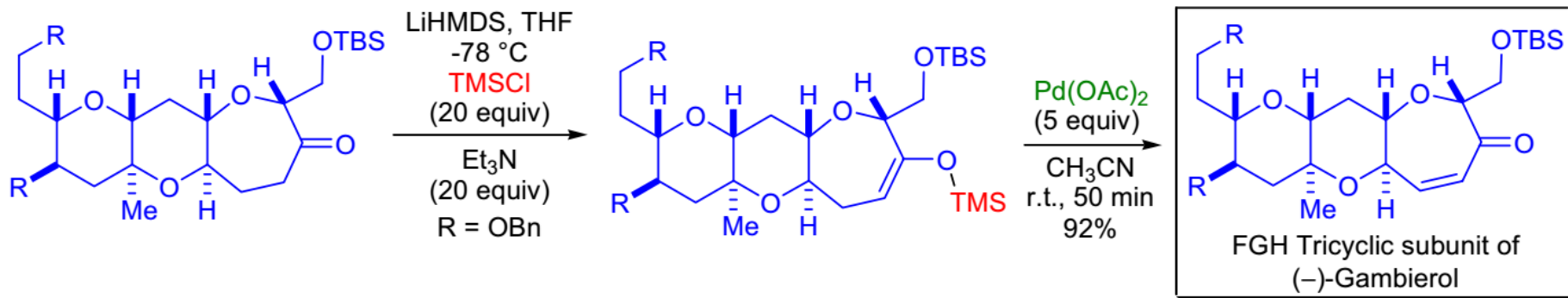
Pd₂(dba)₃, CHCl₃ (5 mol %), diallyl carbonate, MeCN, 90% in two steps

J. AM. CHEM. SOC. 2002, 124, 14546-14547



Hu, X.-D.; Tu, Y. Q.; Zhang, E.; Gao, S.; Wang, S.; Wang, A.; Fan, C.-A.; Wang, M. (2006), "Total Synthesis of (±)-Galanthamine", *Organic Letters*, 8: 1823

SAEGUSA OXIDATION



J. AM. CHEM. SOC. 2002, 124, 14983-14992