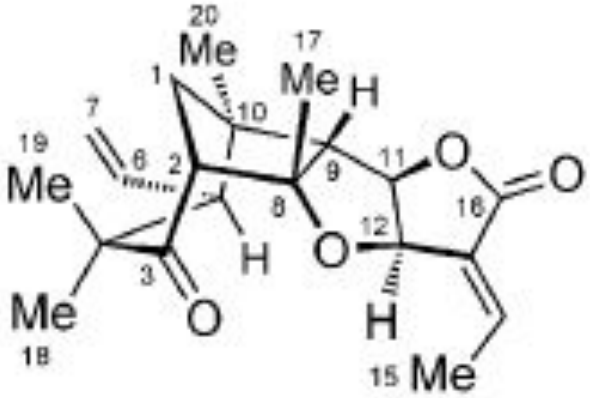
PROTECTING-GROUP-FREE ENANTIOSELECTIVE SYNTHESIS OF (-)-PALLAVICININ AND (+)-NEOPALLAVICININ

Bin Huang, Lei Guo, and Yanxing Jia

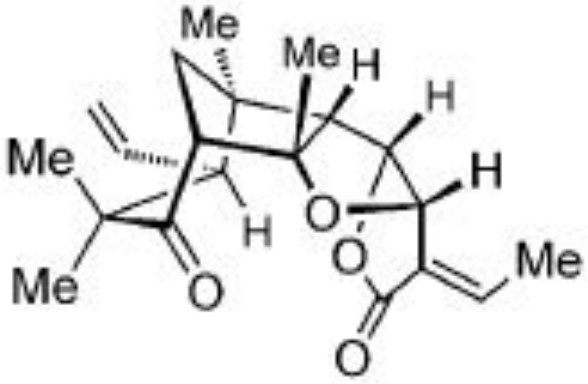
Angew. Chem. Int. Ed. 2015, 54, 1 – 6

DOI: 10.1002/anie.201506575

Target substances



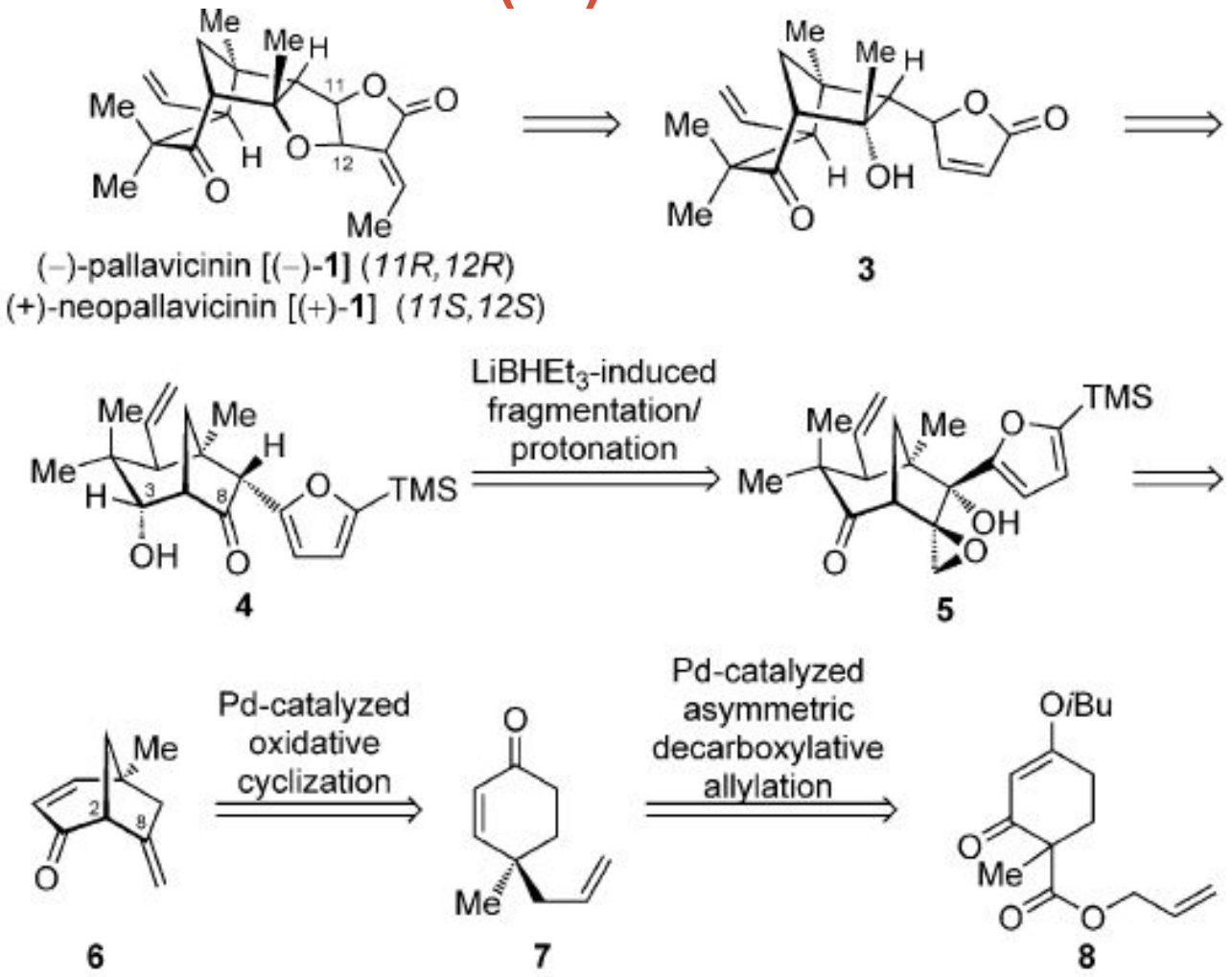
(−)-pallavicinin [(−)-**1**]



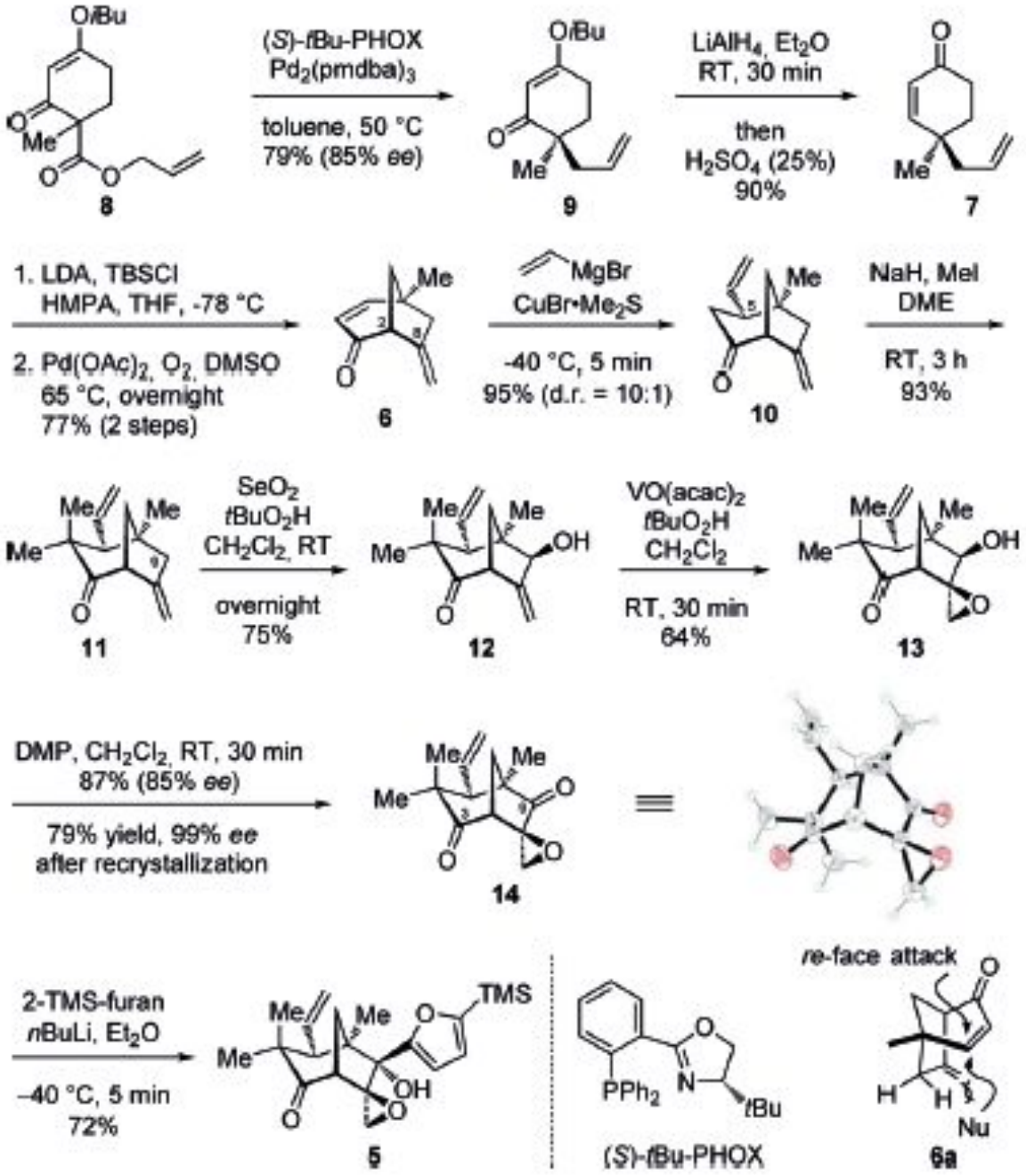
(+)-neopallavicinin [(+)-**2**]

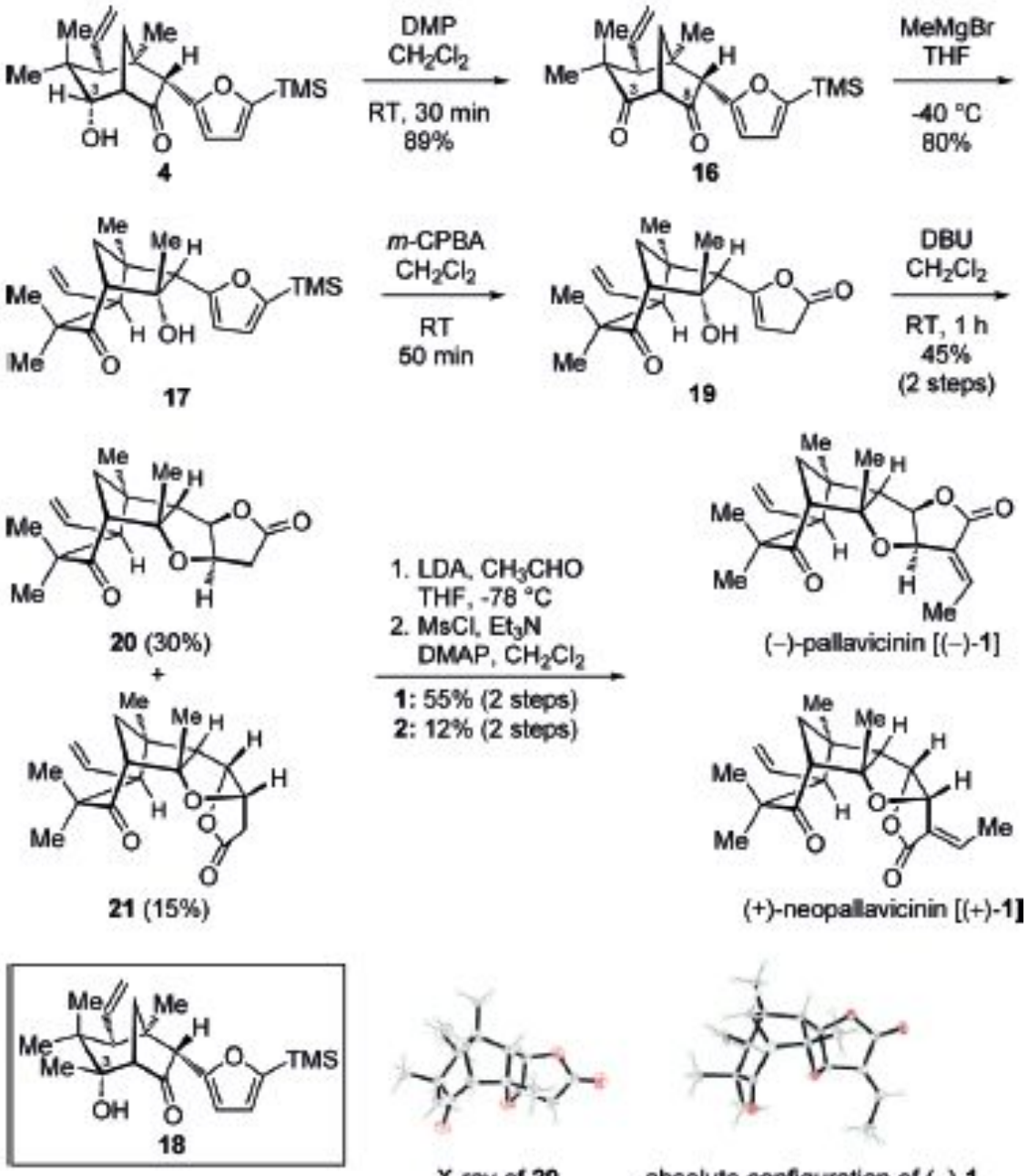
- Novel [6-5-5-5] tetracyclic skeleton
- Bicyclo[3.2.1] moiety
- 7 contiguous stereocenters
- 1 chiral all-carbon quaternary center

Retrosynthetic analysis of (-)-1 and (+)-2



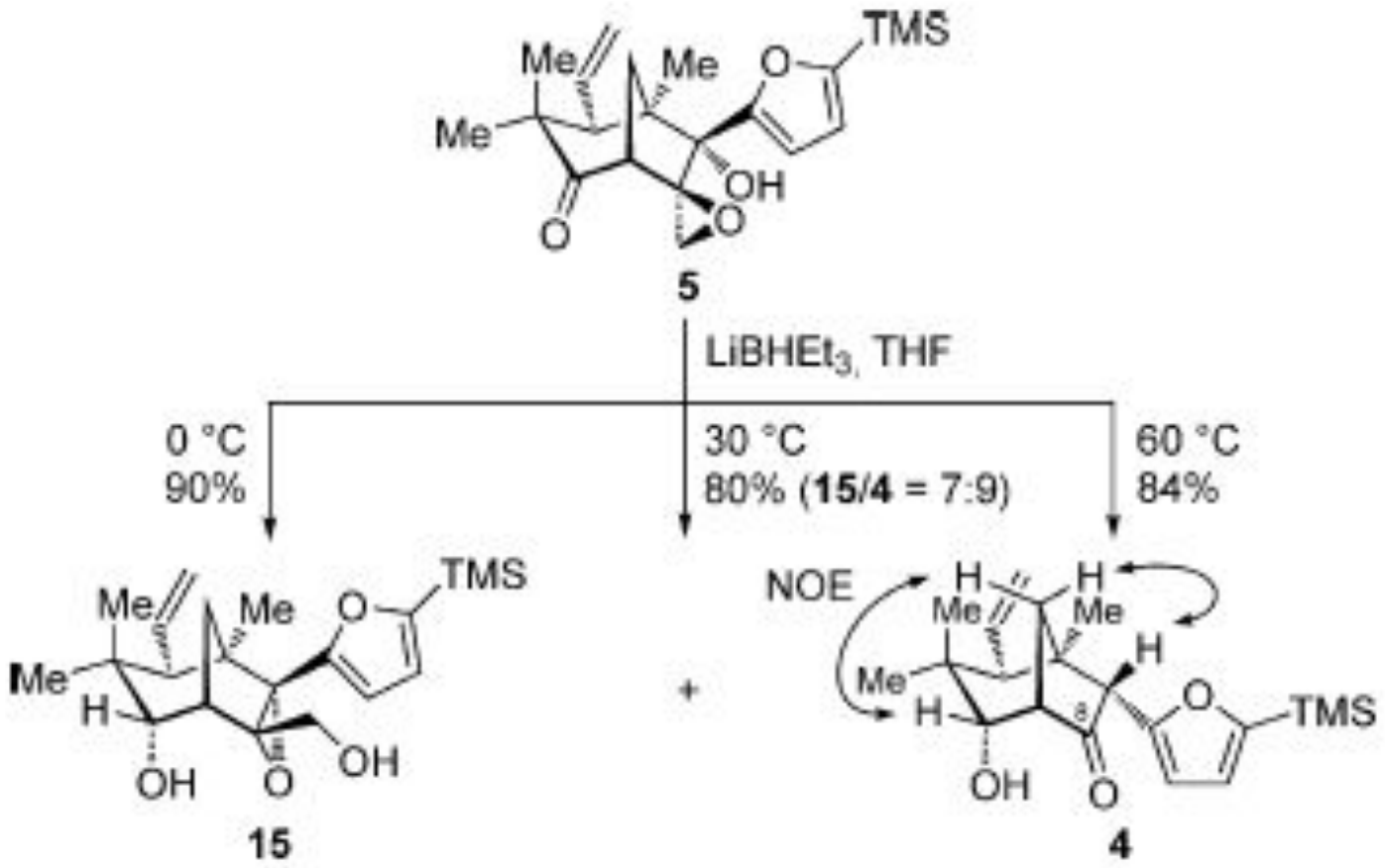
Synthesis of 5





Completing the total synthesis of (-)-1 and (+)-2

LiBHEt3-induced fragmentation of 5



Proposed mechanism for reaction of 5 with LiBHEt3