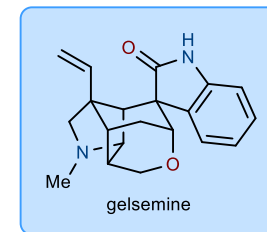


Background

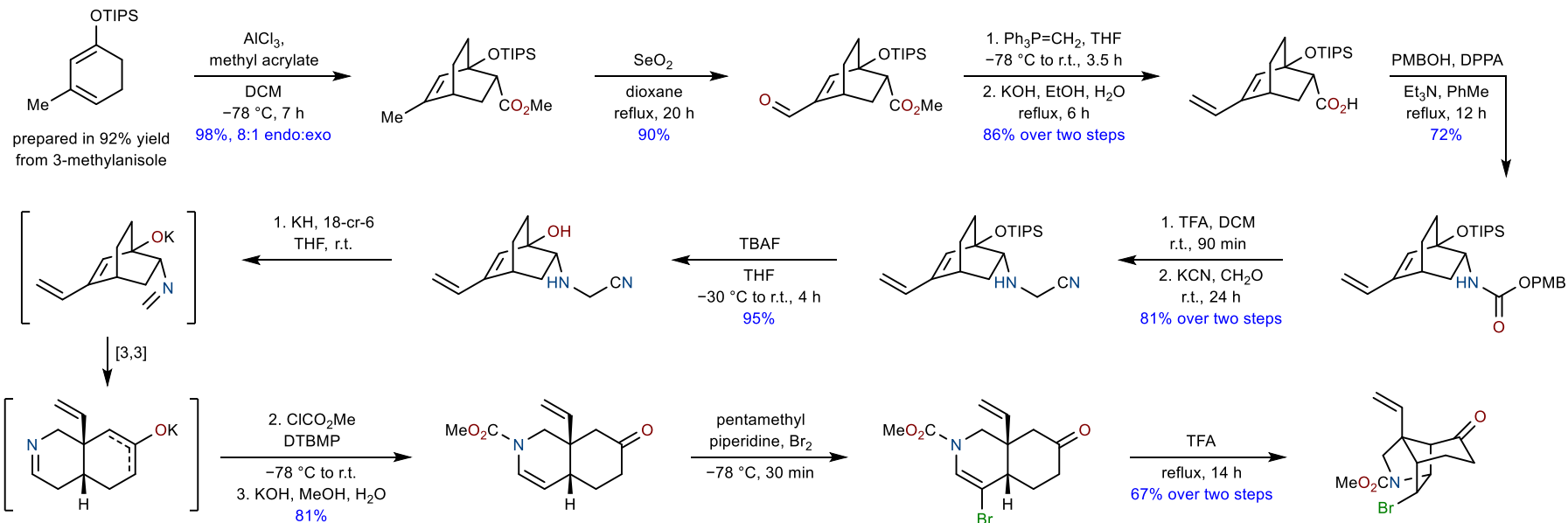
- Major alkaloid component of *Gelsemium sempervirens* (Carolina jasmine), isolated in the 1870s
- After inconclusive degradation studies, structure finally elucidated in 1959 using NMR and X-ray crystallography
- “As gelsemine has no commercial or medicinal value, it was the opportunity to discover and develop new synthetic chemistry that led us to tackle its total synthesis.” – Overman, 2005
- Later found to have potent & specific antinociceptive activity without inducing tolerance



Completed syntheses:
Speckamp, Johnson (1994),
Fukuyama (1996, 2000),
Hart (1997), **Overman (1999)**,
Danishefsky (2002),
Qin (2012), **Qiu (2015)**

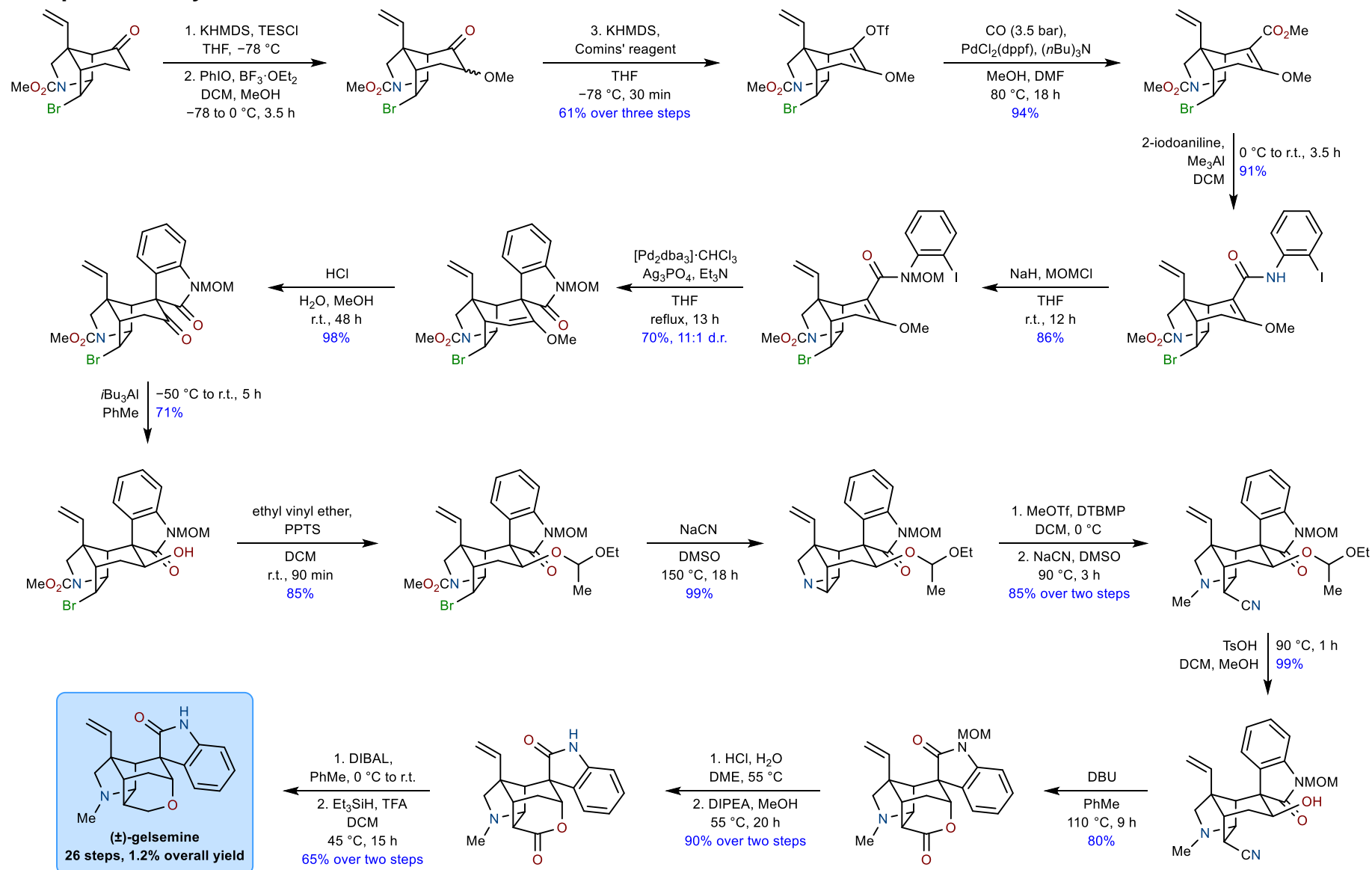
Overman, L. E. *Angew. Chem., Int. Ed.* **1999**, 38, 2934. [https://doi.org/10.1002/\(SICI\)1521-3773\(19991004\)38:19<2934::AID-ANIE2934>3.0.CO;2-L](https://doi.org/10.1002/(SICI)1521-3773(19991004)38:19<2934::AID-ANIE2934>3.0.CO;2-L)

Total Synthesis of (±)-Gelsemine

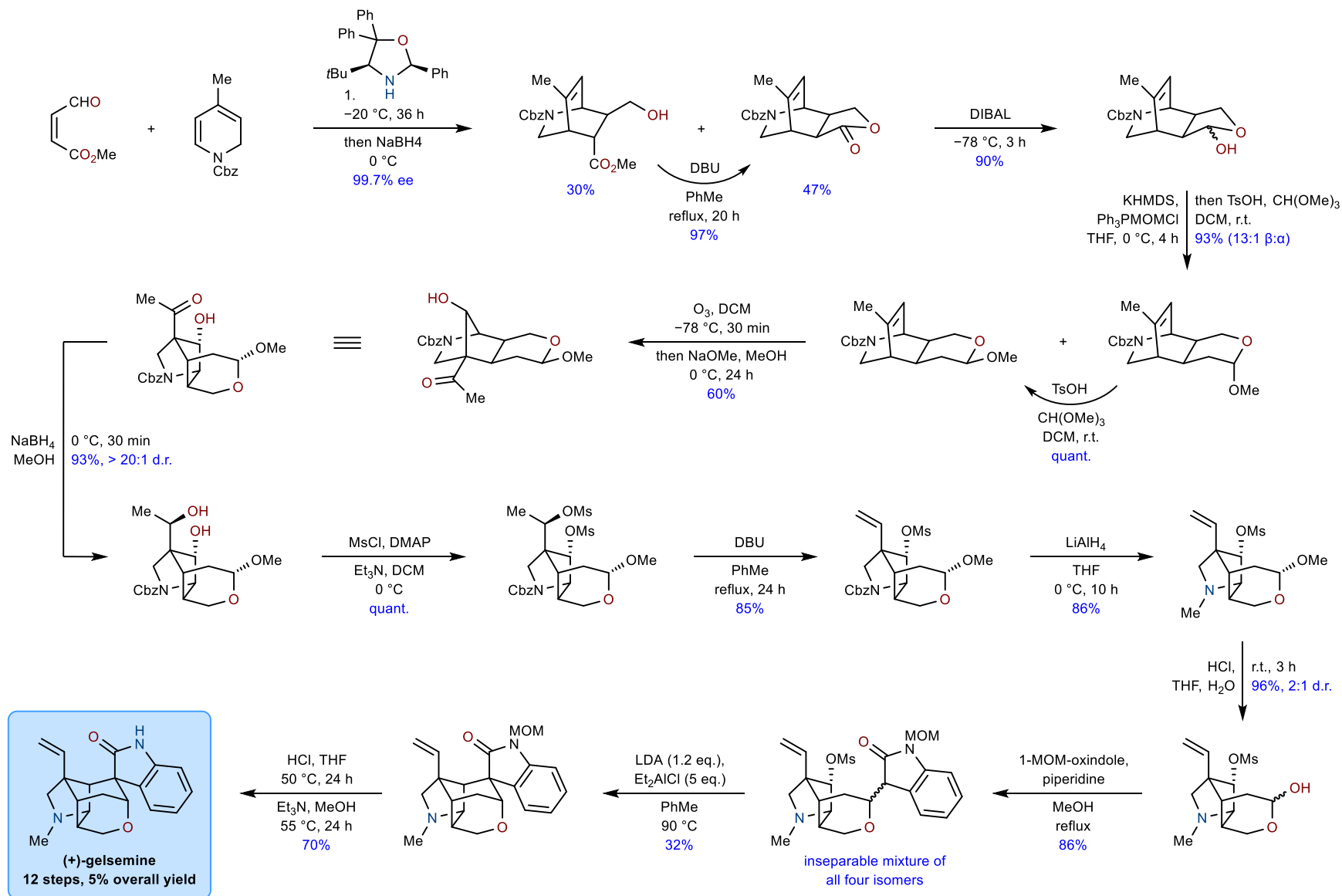


Overman, L. E. *J. Am. Chem. Soc.* **2005**, 127, 18046. <https://doi.org/10.1021/ja055710p>

Completion of Synthesis

Overman, L. E. *J. Am. Chem. Soc.* **2005**, *127*, 18054. <https://doi.org/10.1021/ja055711h>

Enantioselective Total Synthesis of (+)-Gelsemine



Qiu, F. G. *Nat. Commun.* **2015**, *6*, 7204. <https://doi.org/10.1038/ncomms8204>