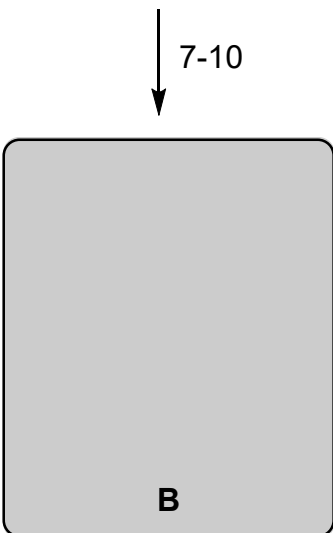
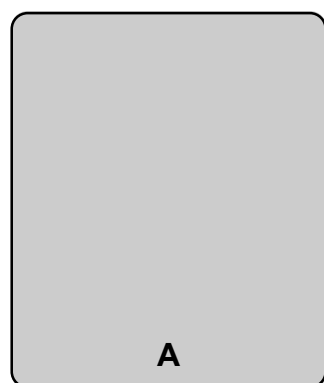
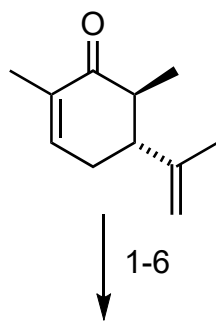


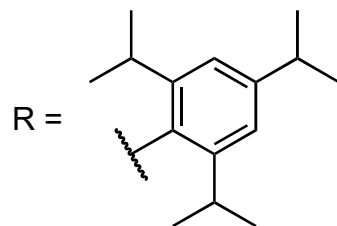
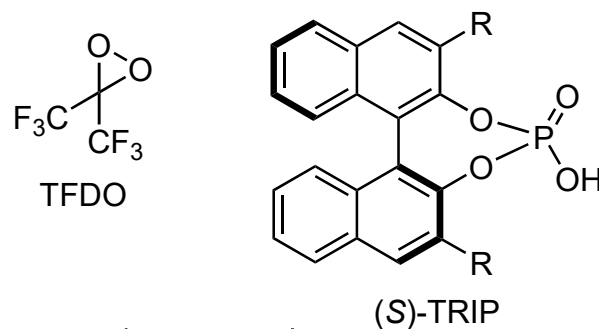
# Total synthesis of 25 picrotoxanes by virtual library selection

Li, C.; Shenvi, R. *Nature* **2025**, 638, 950–986.

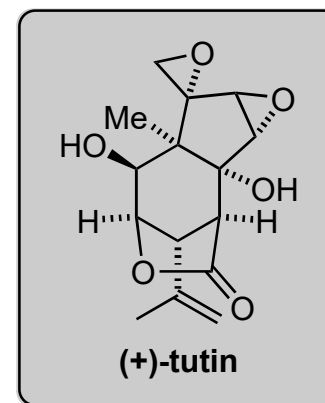


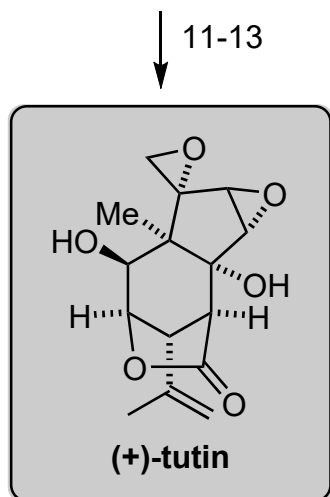
- 1) LHMDS, Pd(P-Bu<sub>3</sub>)<sub>2</sub>, vinyl-Br
- 2) KHMDS, ZnBr, MeO<sub>2</sub>C(CO)Et
- 3) SOCl<sub>2</sub>, DMAP
- 4) LDA *then* TBABr<sub>3</sub>, *then* OsO<sub>4</sub>, NMO, NaIO<sub>4</sub>
- 5) Ph<sub>2</sub>PO(OH), norbornadiene, [Rh(OH)(COD)]<sub>2</sub>
- 6) OsO<sub>4</sub>, NMO

- 7) PhCH(OMe)<sub>2</sub>, HCl *then* Pt/C, H<sub>2</sub>
- 8) LDA, Davis oxaziridine
- 9) DIBAL
- 10) MsCl, *t*-BuOK



- 4) Hint: two new rings are formed
- 5) Name of the reaction?
- 8) Structure of Davis oxaziridine





- 11) TFDO, (S)-TRIP *then* I<sub>2</sub>, TFDO
- 12) CrO<sub>3</sub>, TBAIO<sub>4</sub>
- 13) Zn, AcOH *then* Sml<sub>2</sub>, H<sub>2</sub>O

11) Hint: oxidation of and opening of the PG occurs besides epoxidation *then* formation of a new ring