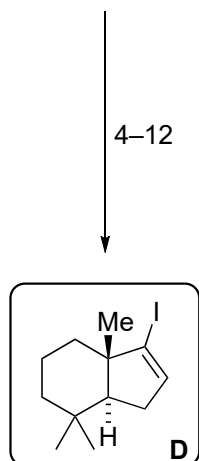
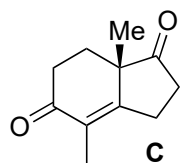
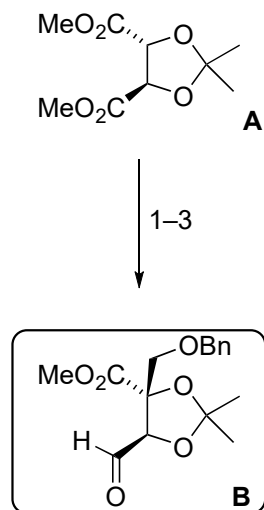
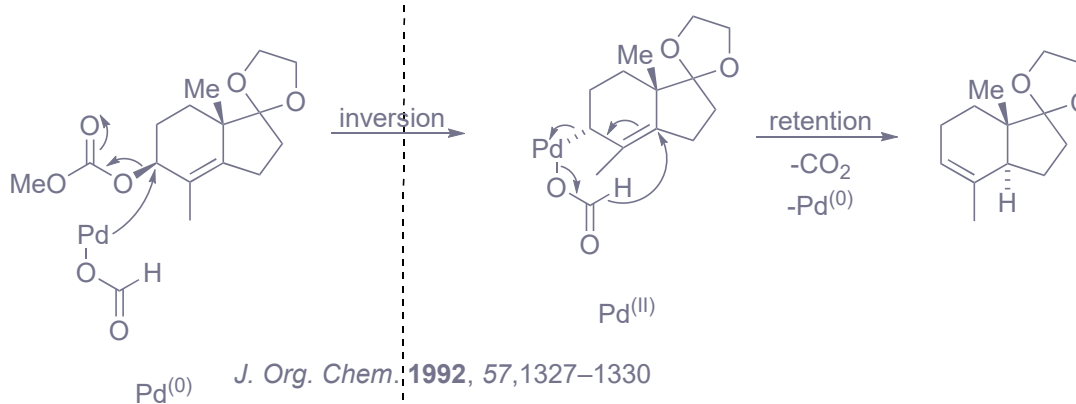


Total Synthesis of (-)-Chromodorolide B

Tao, D. J.; Slutskyy, Y.; Muuronen, M.; Le, A.; Kohler, P.; Overman, L. E.
J. Am. Chem. Soc. **2018**, *140*, 3091–3102



- 1) LDA, BOMCl
- 2) DIBAL-H
- 3) DMP



Please provide the name and complete mechanism of the reaction in **Step 7**.

Tsuji–Trost reaction

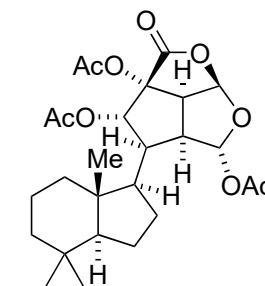
Please provide the name of the reaction in **Step 8**.

Simmons–Smith reaction (Furukawa modification)

Please provide the name and complete mechanism of the reaction in **Step 11 and 12**.

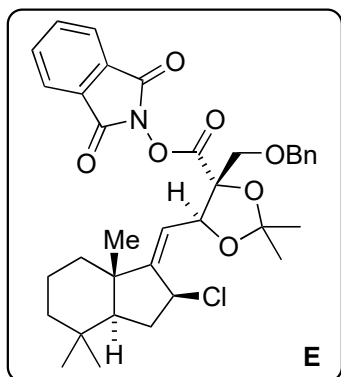
Barton vinyl iodide synthesis, see below

- 4) ethylene glycol, TsOH, Δ
- 5) LiAlH_4
- 6) DMAP, MeOC(O)Cl
- 7) $\text{Pd}(\text{acac})_2$, $n\text{-Bu}_3\text{P}$, NH_4HCO_2
- 8) Et_2Zn , ClCH_2I then HCl
- 9) PtO_2 , H_2 , AcOH
- 10) PCC
- 11) H_2NNH_2 , Et_3N , EtOH, Δ
- 12) I_2 , TMG, THF, Δ

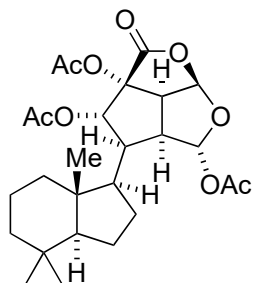


(-)-Chromodorolide B

13–16

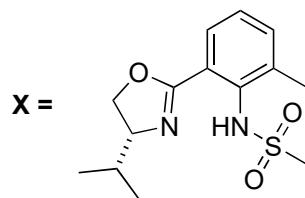


17–24



(-)-Chromodorolide B

- 13) **B**, NiCl₂, CrCl₂, Et₃N, **X**
- 14) KOH, MeOH/H₂O, Δ
- 15) *N*-hydroxyphthalimid, DCC, DMAP
- 16) SOCl₂, pyridine

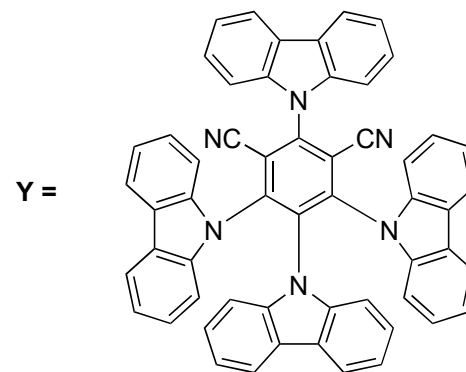


- 17) **Y** cat.; 2 x 34 W blue LEDs, **Z**, **T**, then *n*-Bu₃N
- 18) DIBAL-H then Ac₂O, DMAP, pyridine
- 19) Pd(OH)₂, H₂
- 20) PtO₂, H₂
- 21) DMP
- 22) NaClO₂, 2-methyl-2-butene H₂O/*t*-BuOH/THF, NaH₂PO₄
- 23) 1:1 4 M HCl/THF
- 24) DMAP, Ac₂O, pyridine

Please provide the name of the reaction in **Step 13**.

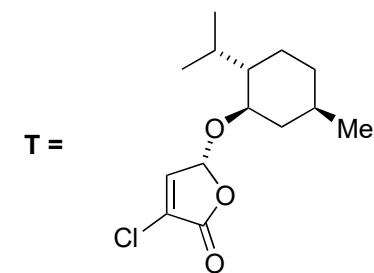
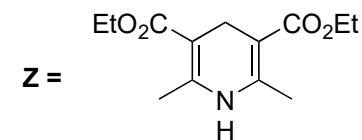
Nozaki–Hiyama–Takai–Kishi reaction

Hint: A rearrangement takes place in **Step 16**.

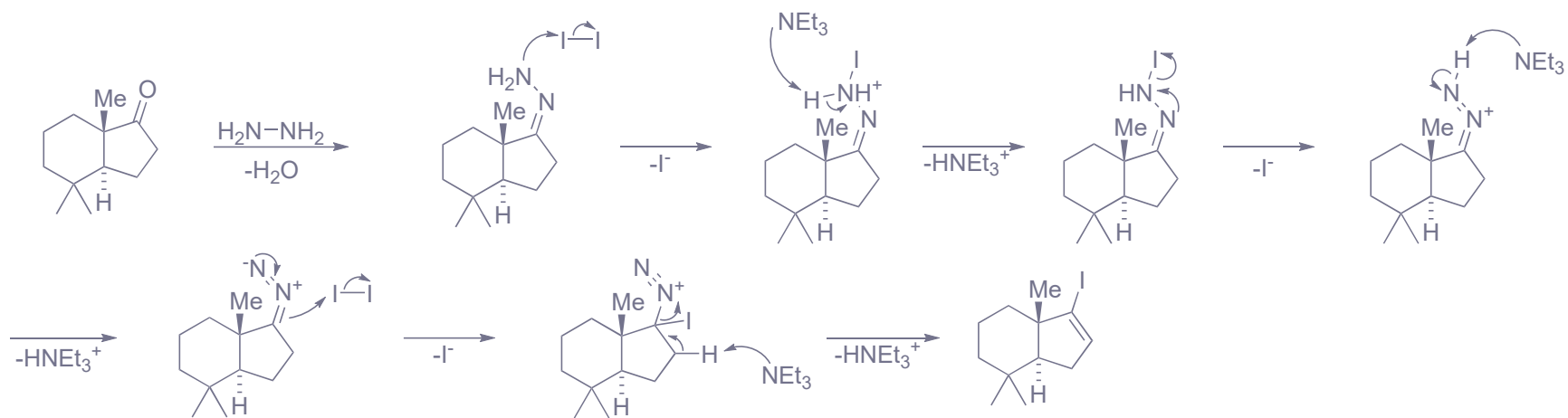


Please provide a proposal for the mechanism in **Step 17**. See below!

Hint: Part of it consists of a named reaction. Provide that name!



Step 11 and 12:



Step 17:

