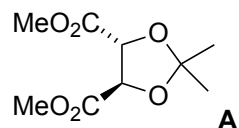
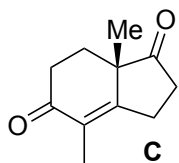


Total Synthesis of (-)-Chromodorolide B

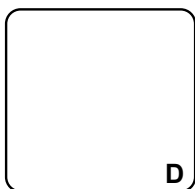
Tao, D. J.; Slutskyy, Y.; Muuronen, M.; Le, A.; Kohler, P.; Overman, L. E.
J. Am. Chem. Soc. **2018**, *140*, 3091–3102



1–3



4–12



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

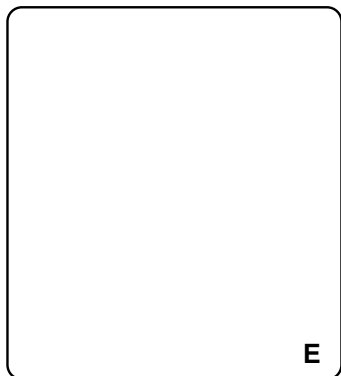
- 4) ethylene glycol, TsOH, Δ
- 5) LiAlH₄
- 6) DMAP, MeOC(O)Cl
- 7) Pd(acac)₂, *n*-Bu₃P, NH₄HCO₂
- 8) Et₂Zn, ClCH₂I then HCl
- 9) PtO₂, H₂, AcOH
- 10) PCC
- 11) H₂NNH₂, Et₃N, EtOH, Δ
- 12) I₂, TMG, THF, Δ

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

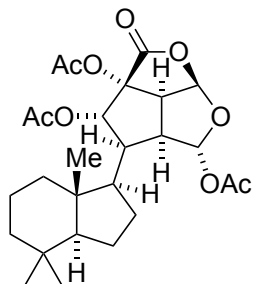
Please provide the name of the reaction in **Step 8**.

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

13–16

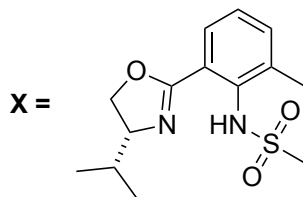


17–24



(-)-Chromodorolide B

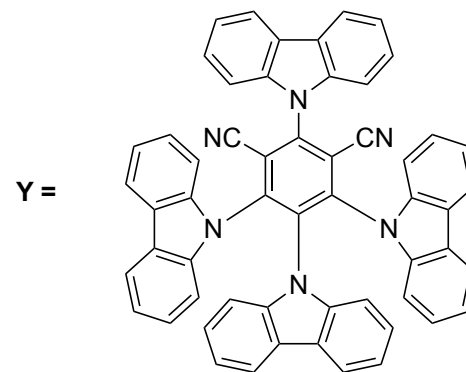
- 13) **B**, NiCl₂, CrCl₂, Et₃N, **X**
 14) KOH, MeOH/H₂O, Δ
 15) *N*-hydroxyphthalimid, DCC, DMAP
 16) SOCl₂, pyridine



- 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**.

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



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

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

