

Original Publications: Fritz, L.; Wienhold, S.; Hackl, S.; Bach, T. Total Synthesis of Pulvomycin D, *Chem. Eur. J.* **2022**, 28, e202104064.

Wienhold, S.; Fritz, L.; Judt, T.; Hackl, S.; Neubauer, T.; Sauerer, B.; Bach, T. Studies towards Synthesis of (-)-Pulvomycin: Construction of the C12-C40 Segment by Stereoselective Aldol Reaction, *Synthesis* **2021**, 53, 4246-4262.

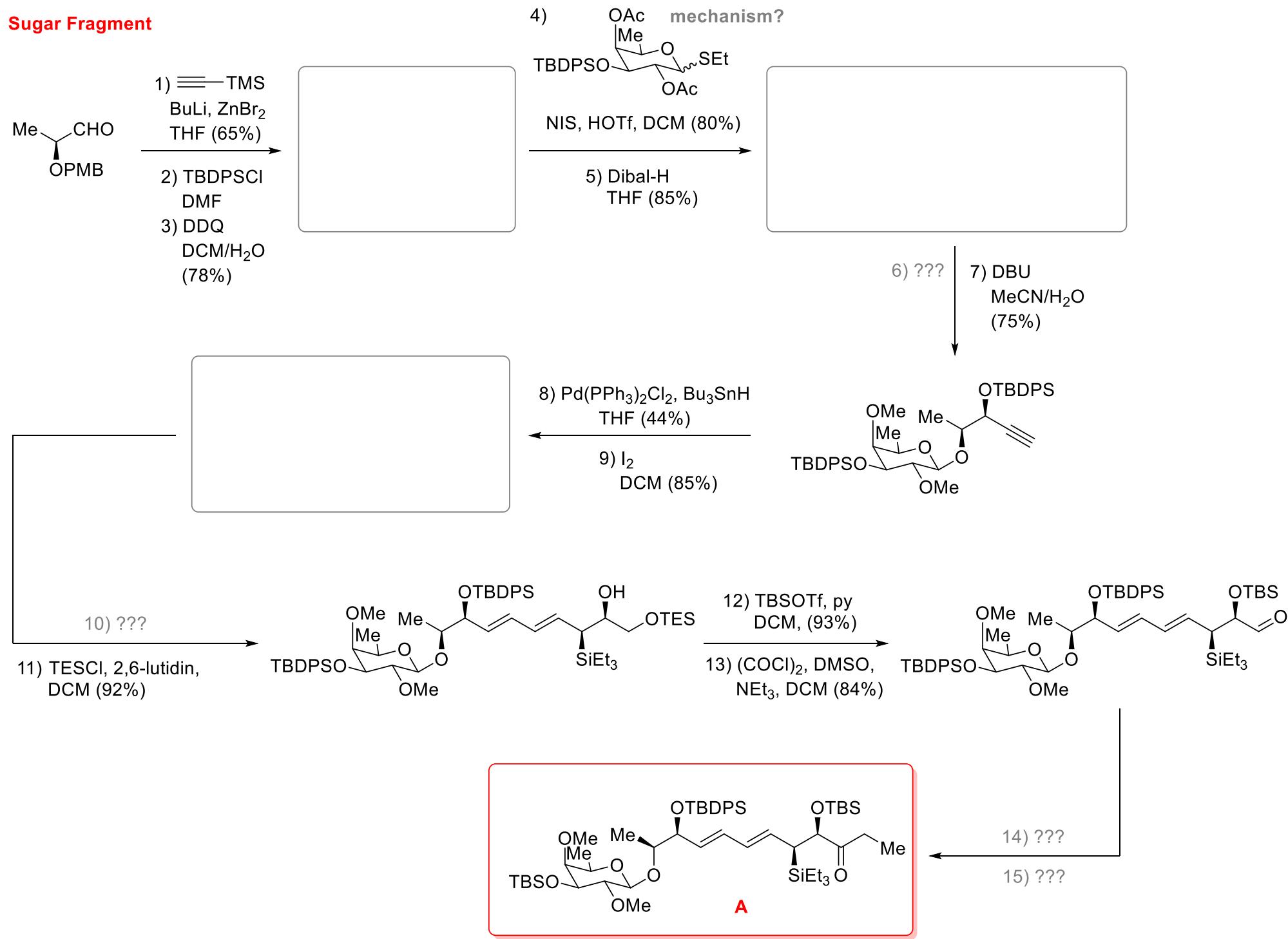
Börding, S.; Bach, T. An enantioselective synthesis of the C₂₄-C₄₀ fragment of (-)-pulvomycin, *Chem. Commun.* **2014**, 50, 4901-4903.

- first time isolated in 1963 from *Streptomyces albosporous*
- significant bioactivities: A - antibacterial activity
D - cytotoxic against various cancer cell lines
- high lability against acid, base, oxygen and light (conjugated triene unit)
- first total synthesis in 2021 by group of Thorsten Bach (Twitter: @Bach_Lab)

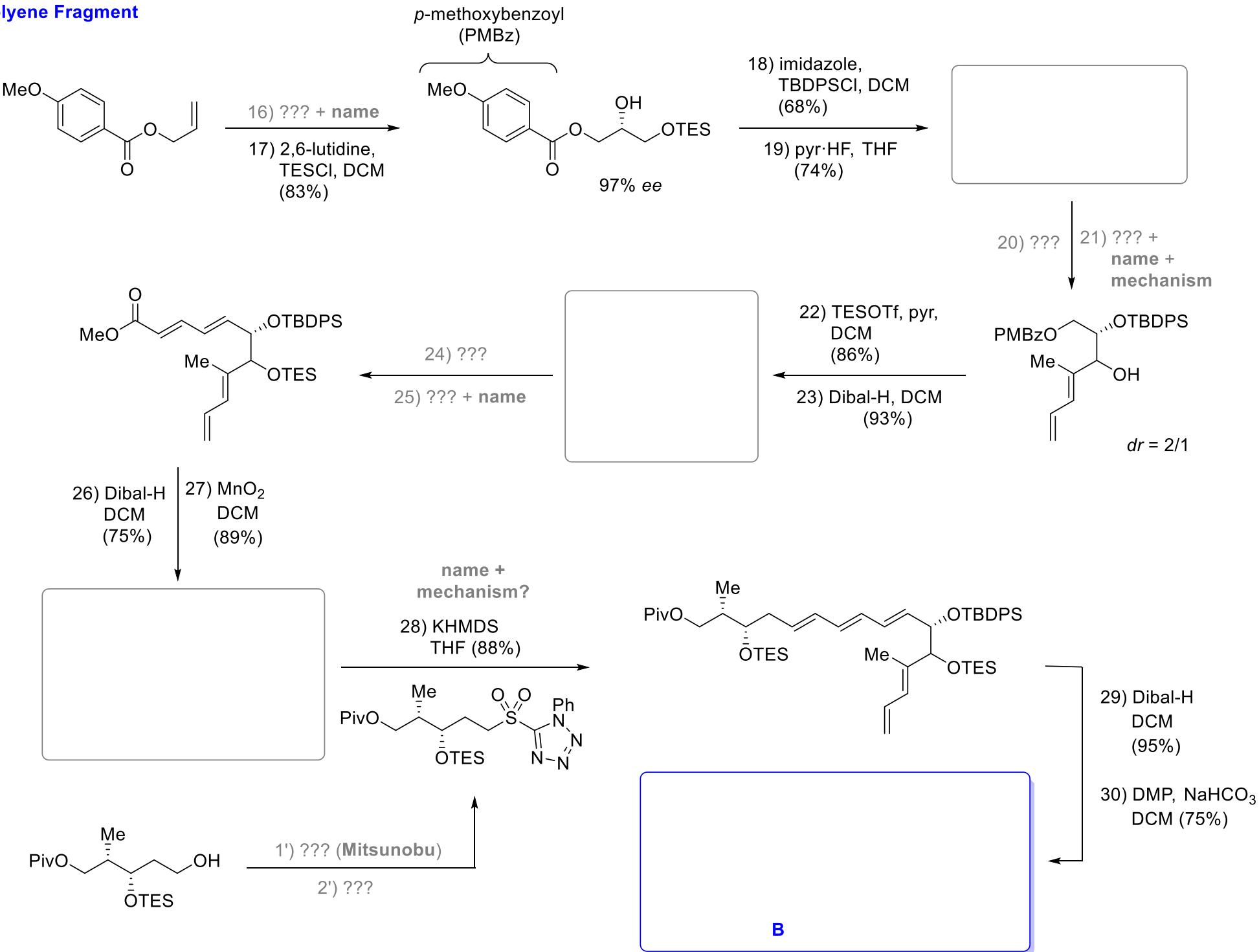


Determination of Fragments

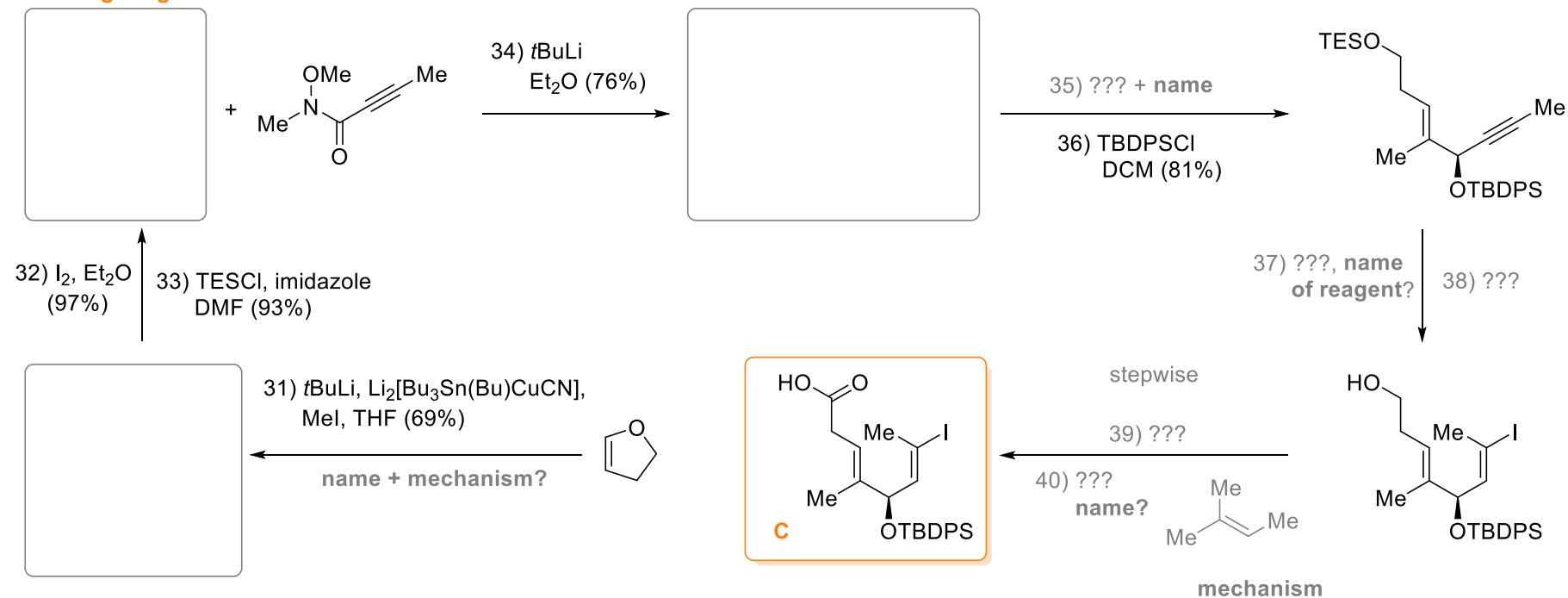
Sugar Fragment



Polyene Fragment



Linking Fragment



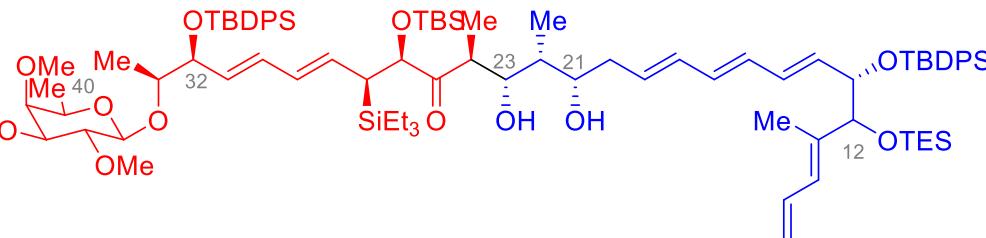
Final

Aldol reaction

41) $\text{TMPPMgCl} \cdot \text{LiCl}$,
(-)- Ipc_2BCl , **B**
THF

A

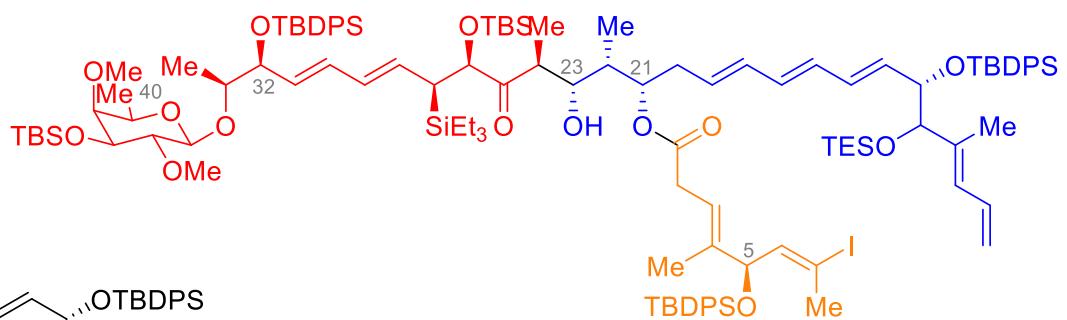
42) $\text{HF} \cdot \text{pyr}$
THF
(26%)



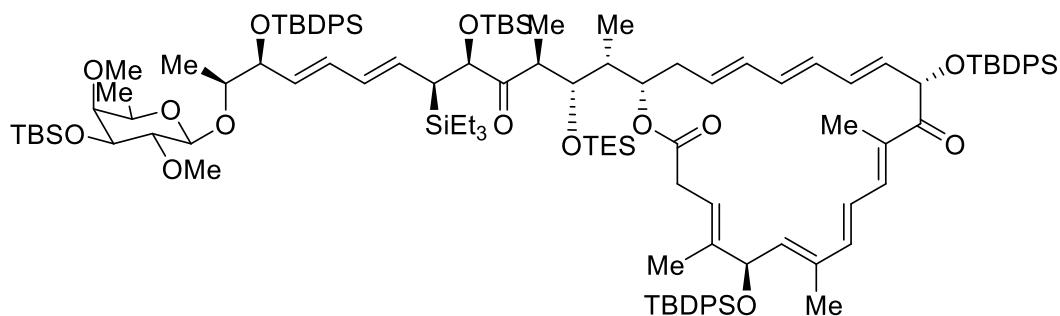
43) **C**, ???
Yamaguchi

44) TESOTf , lut
DCM (91%)
45) $\text{HF} \cdot \text{pyr}$
THF, (69%)

46) $\text{DMP}, \text{NaHCO}_3$
DCM



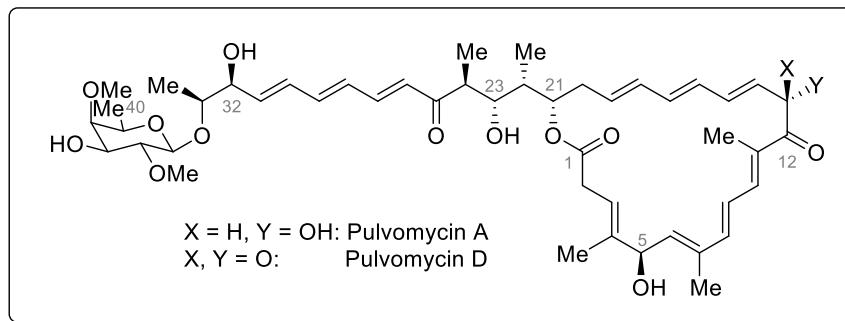
47) ??? + name



48) ???
49) ???

Pulvomycin D

Solutions

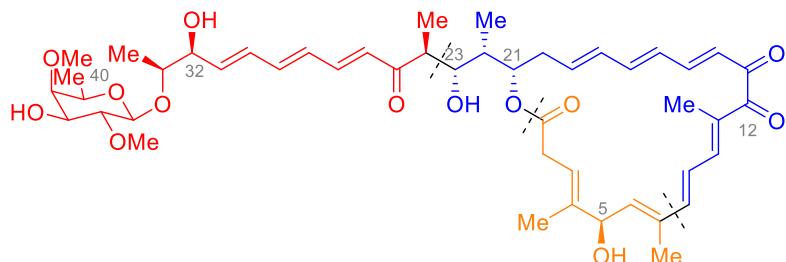


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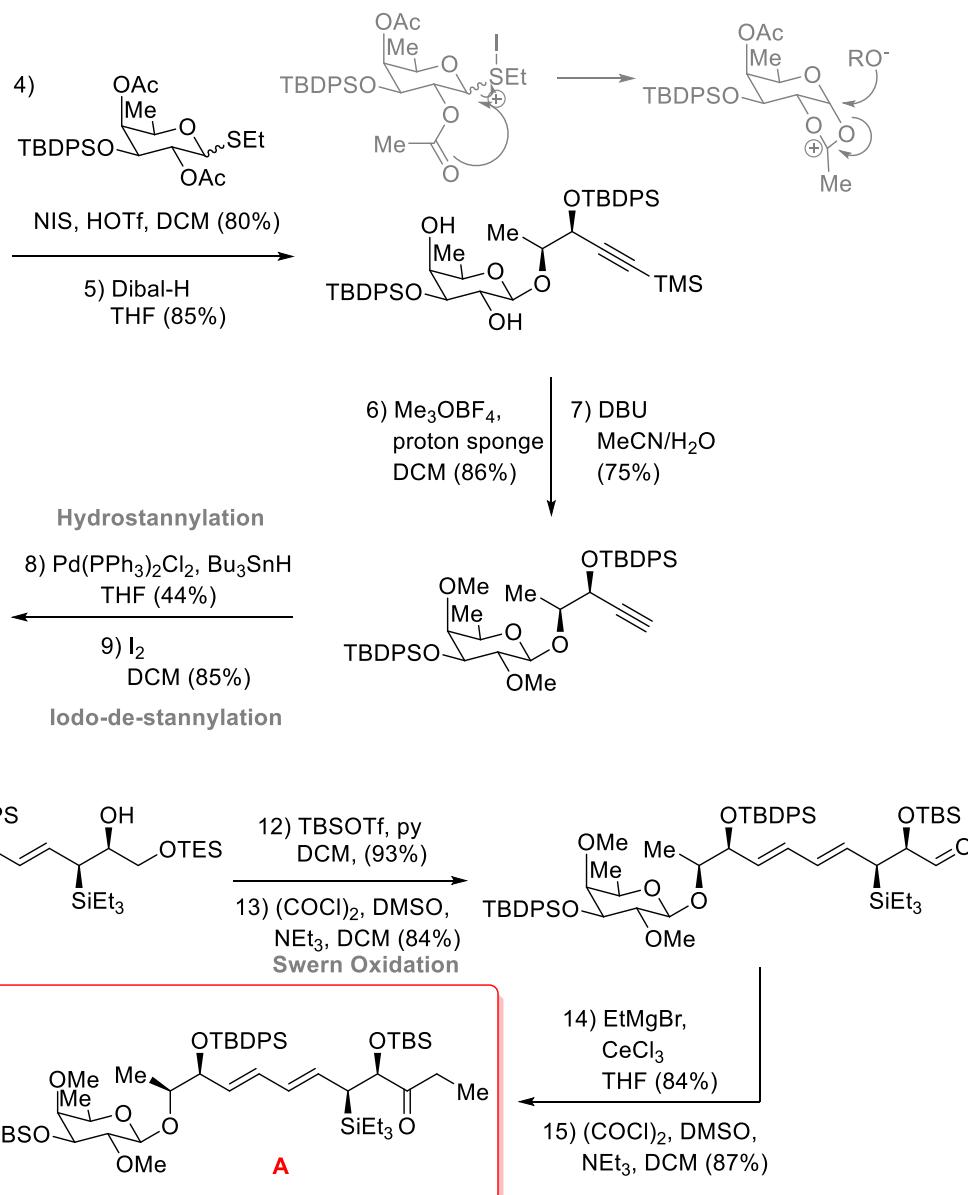
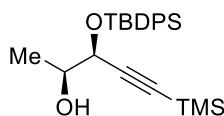
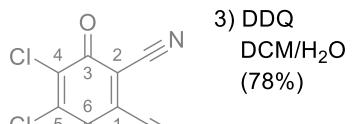
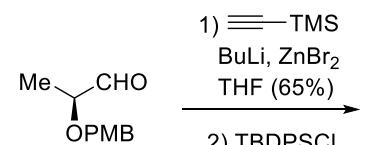
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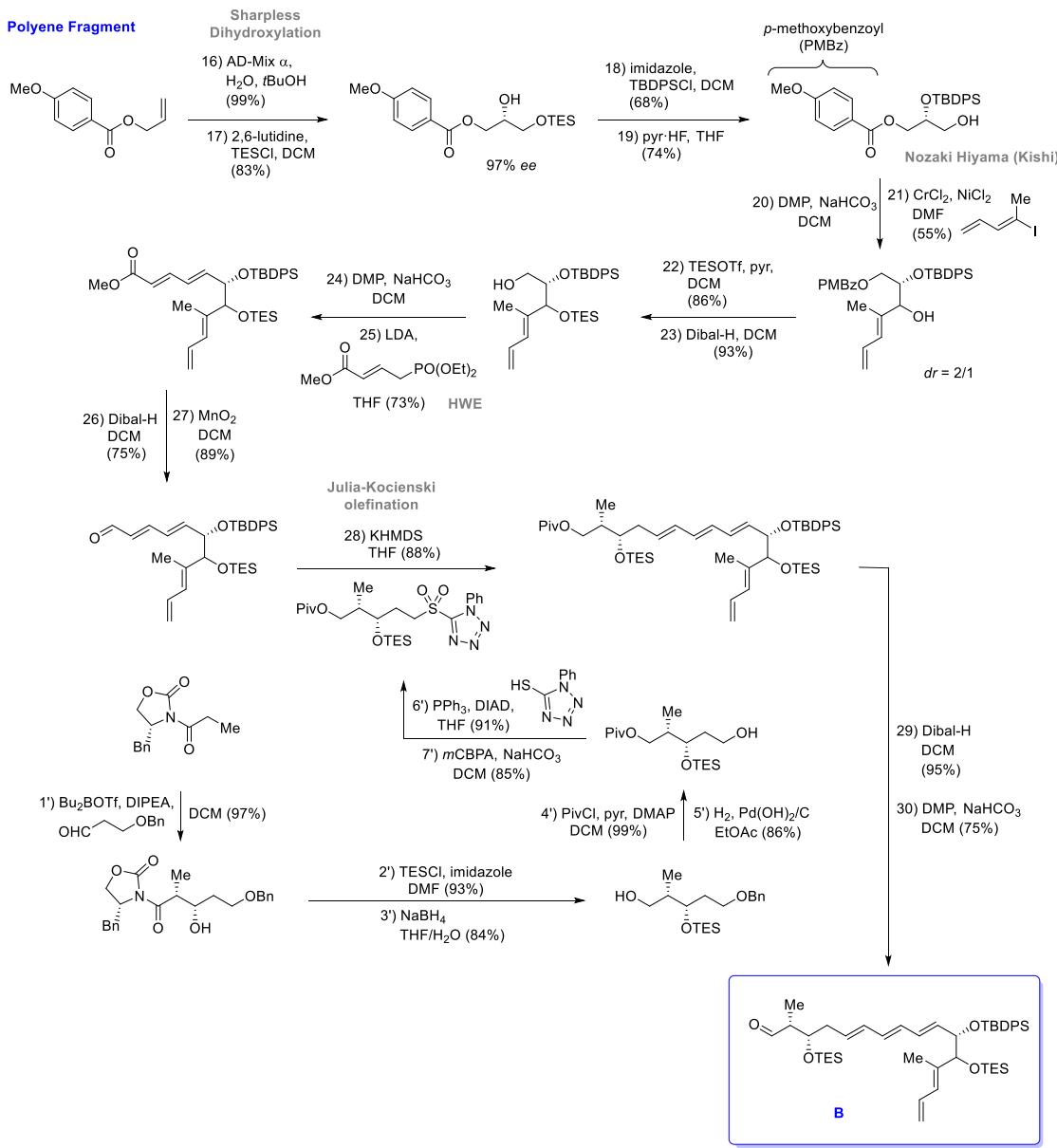


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