

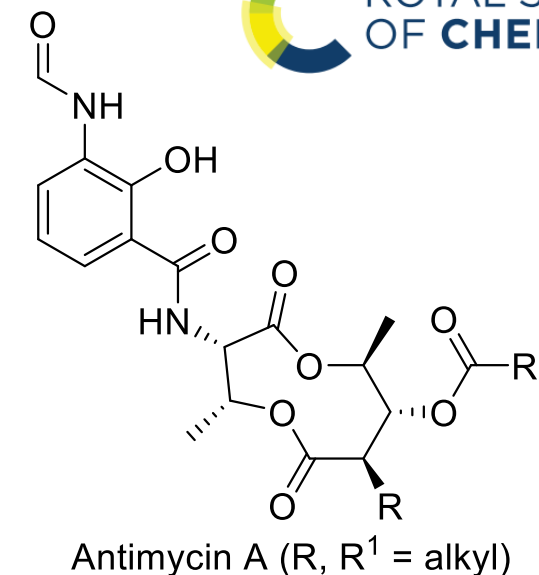
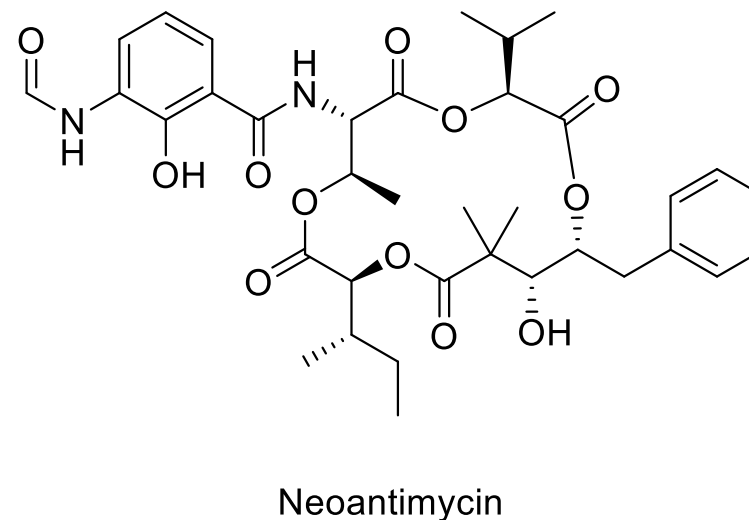
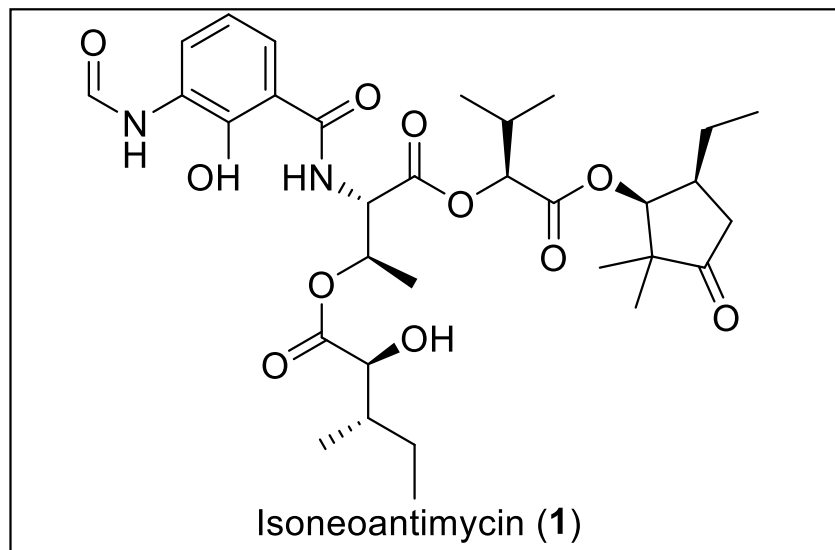


Total synthesis of isoneoantimycin†

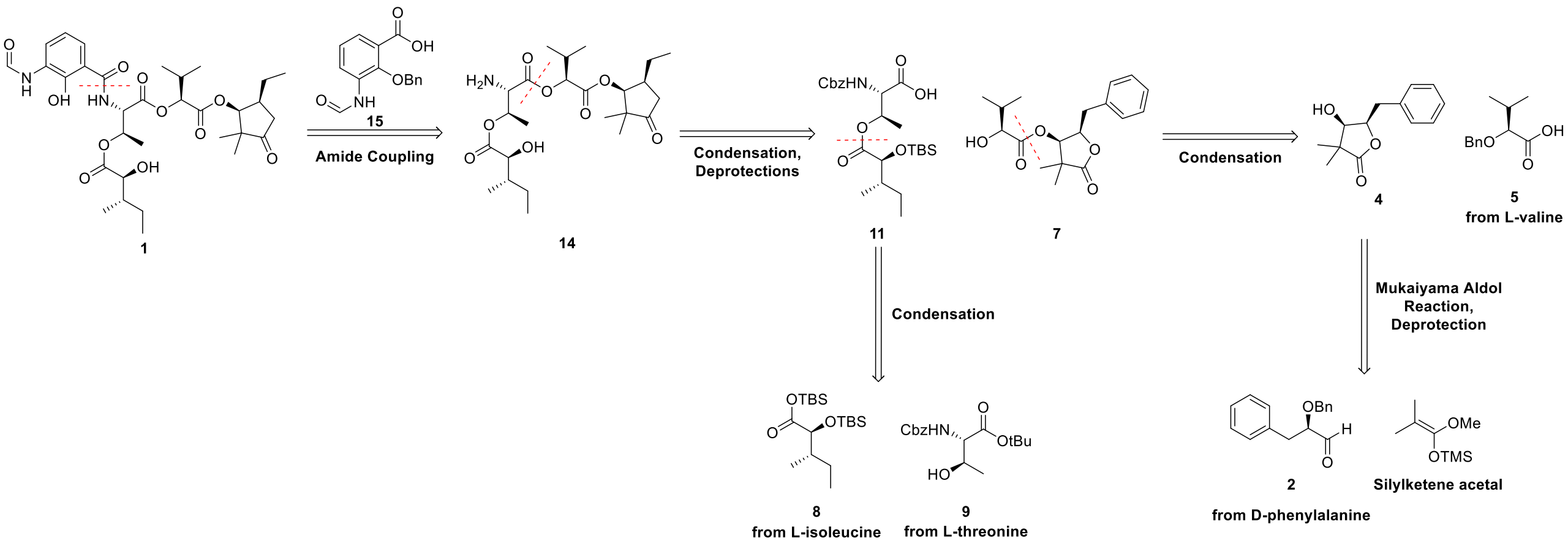
Yoshinosuke Usuki,  * Yuka Tanaka, Miyu Morii and Tetsuya Satoh 

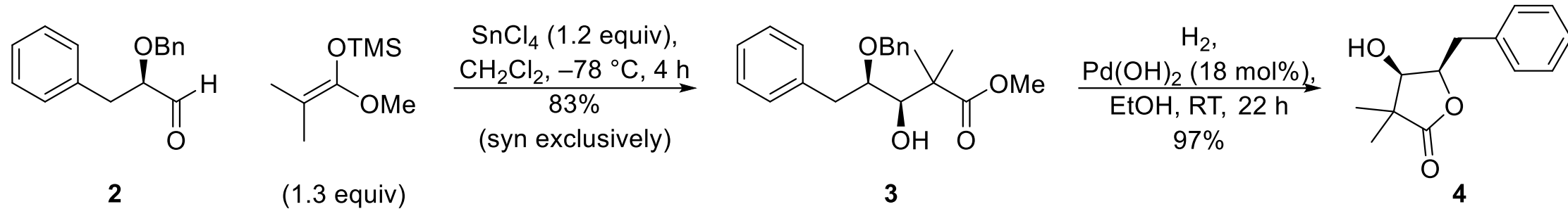


- Isolated from *Streptomyces fradiae* IFO12773 by Takeda and co-workers in 1998
- A minor metabolite produced during the fermentation of neoantimycin
- First reported antibiotic of the antimycin-class without macrolide core
- Antimycin-class depsipeptides have biological activity: anti-cancer, antifungal, and immunosuppressant properties

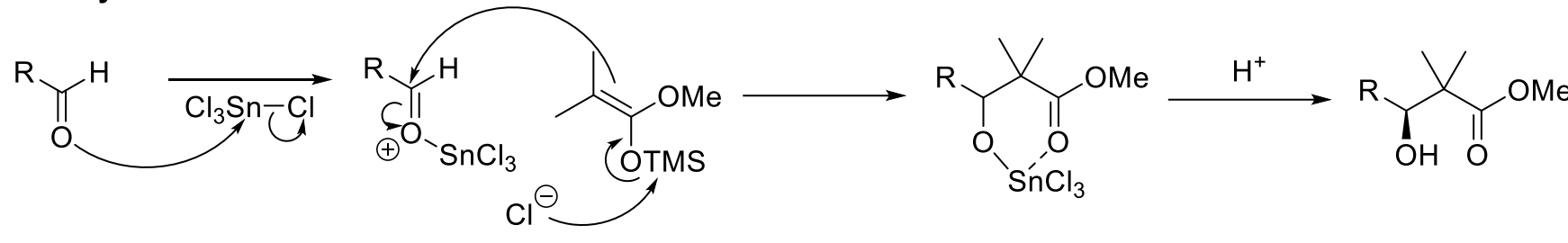
Jennifer LaPoff
Liu Group
July 5th, 2023

Retrosynthetic Analysis

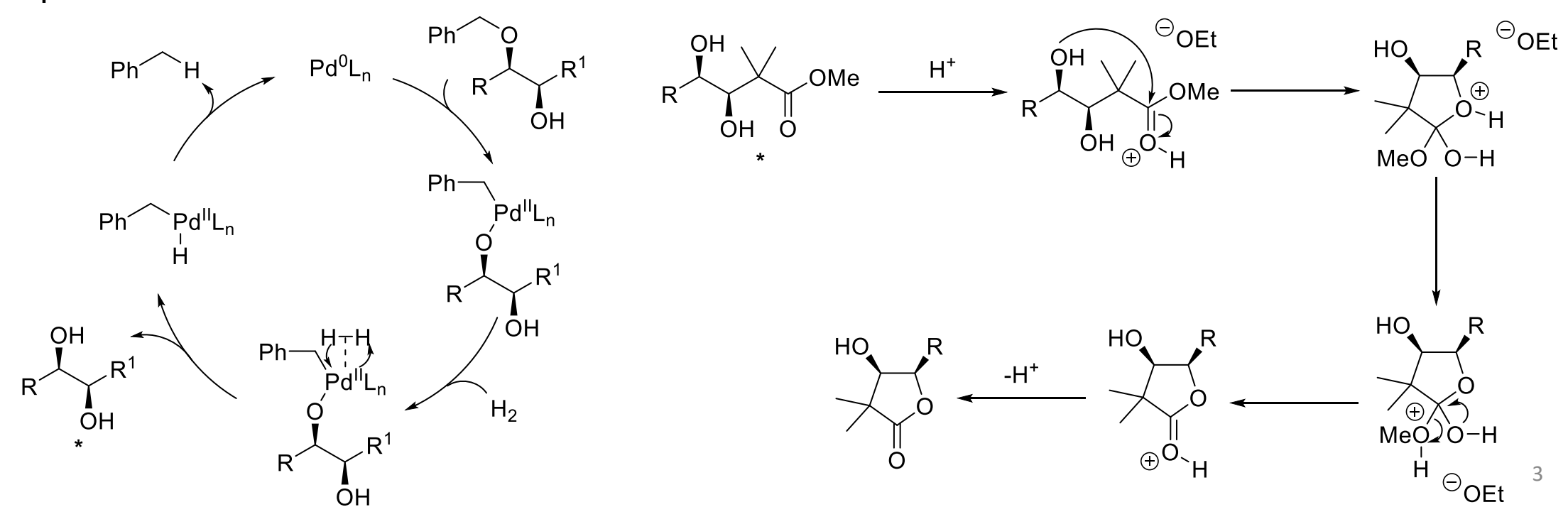


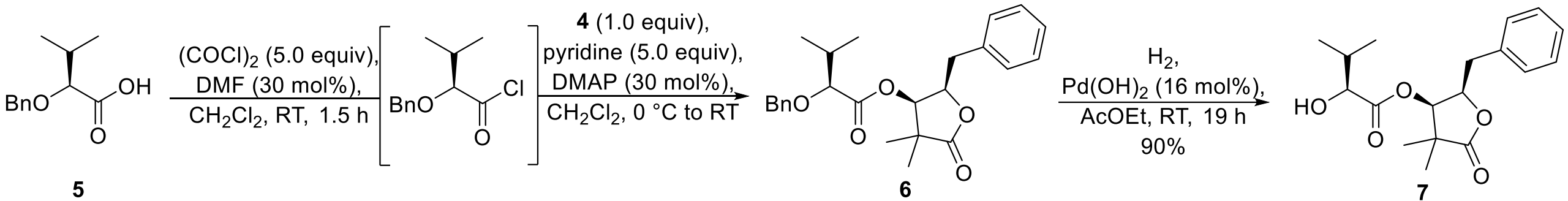


Mukaiyama Aldol Reaction

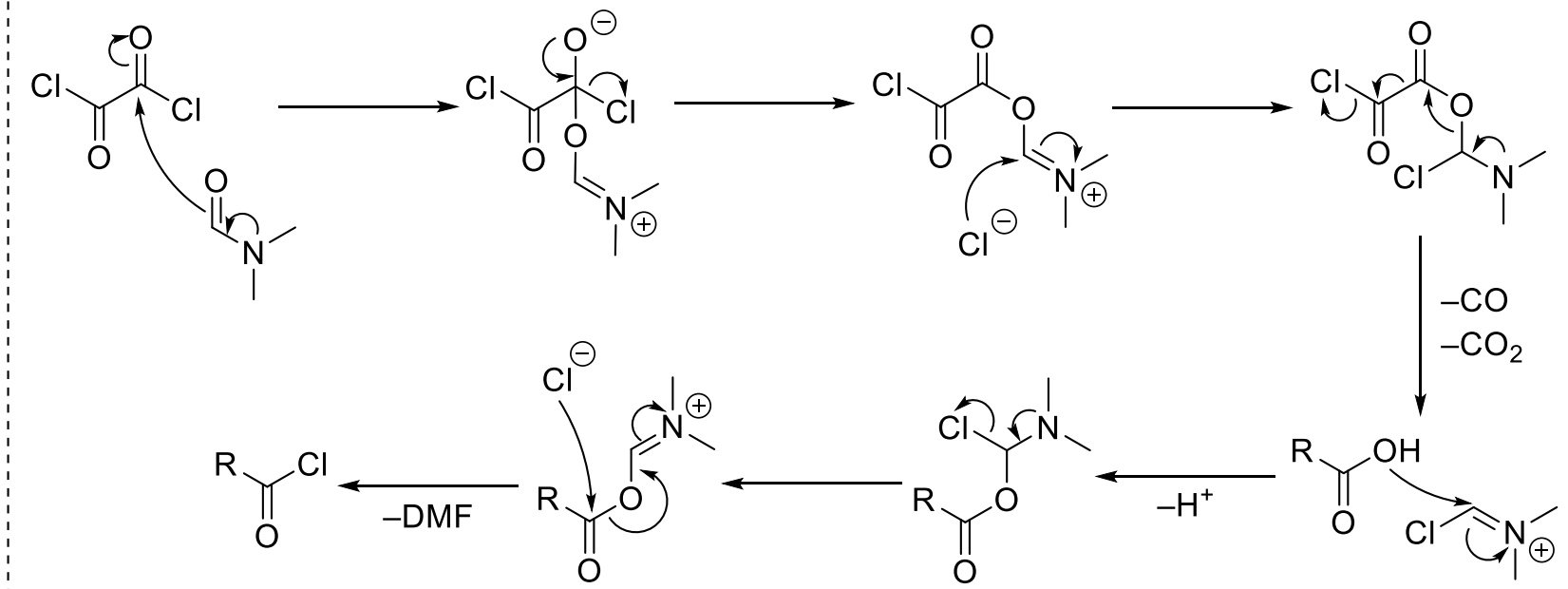


Deprotection then Intramolecular Esterification

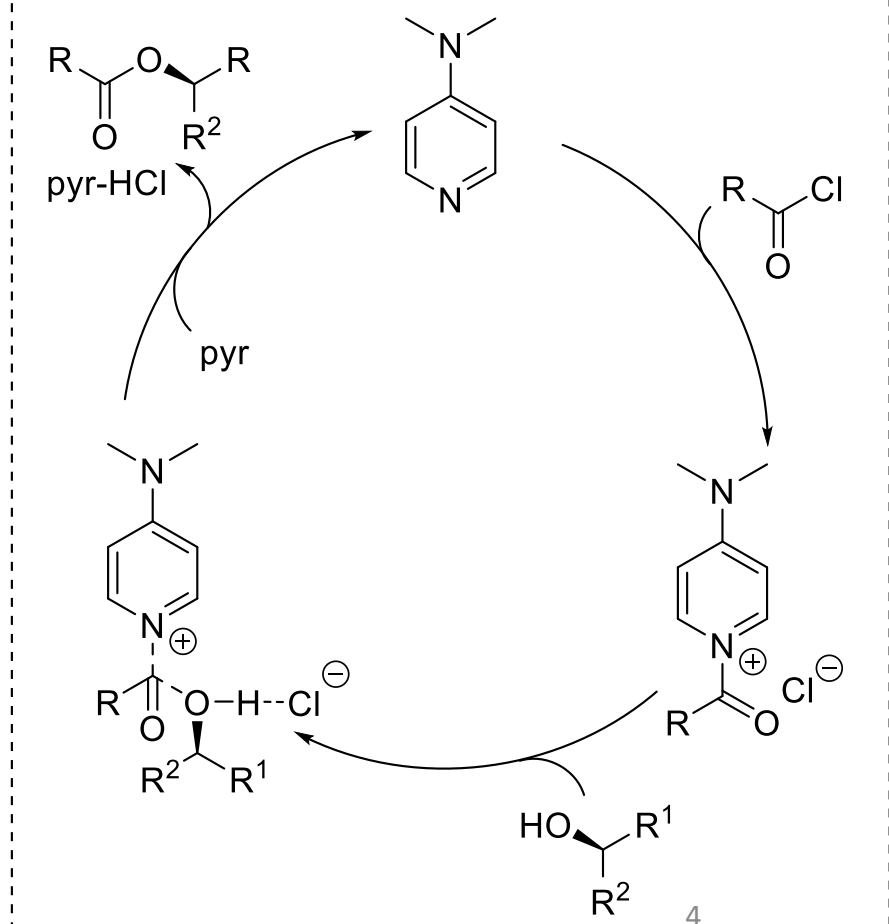


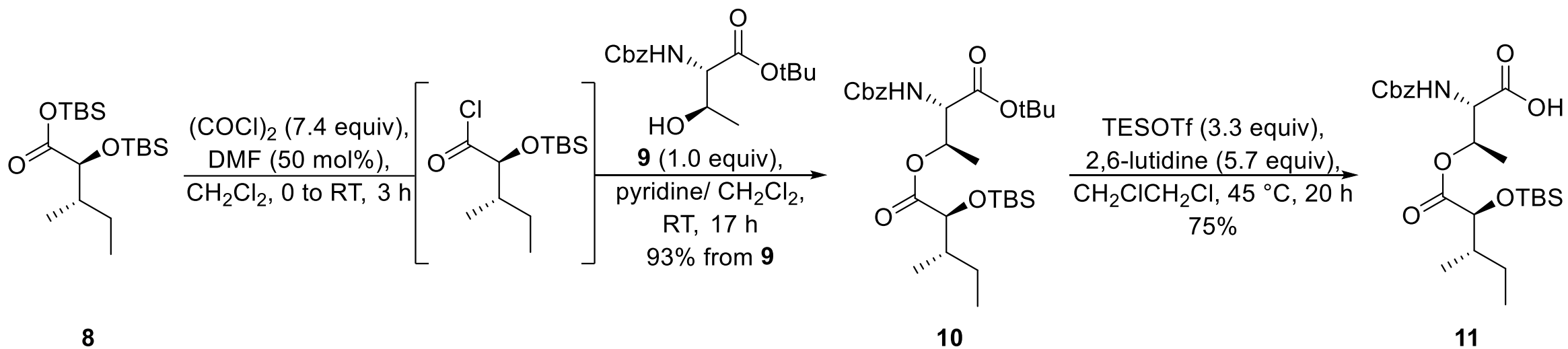


Synthesis of Acyl Chloride

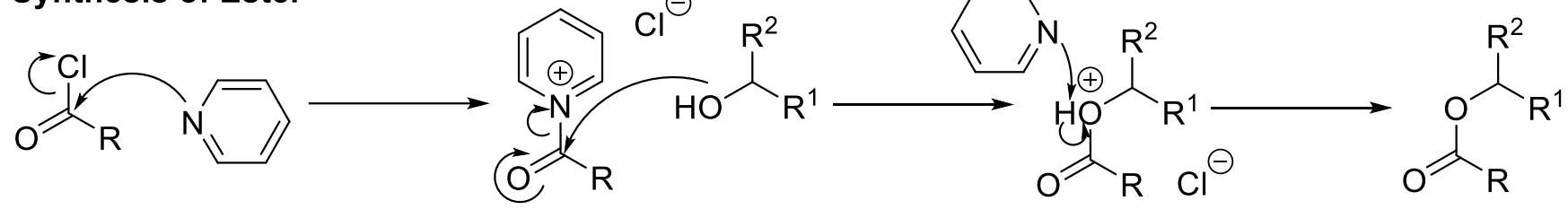


Condensation Reaction

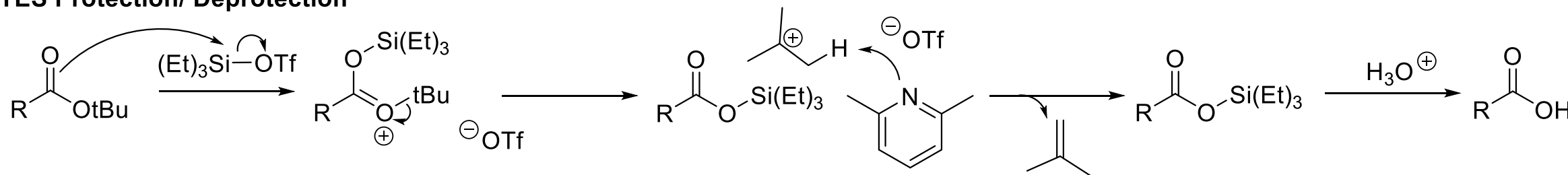


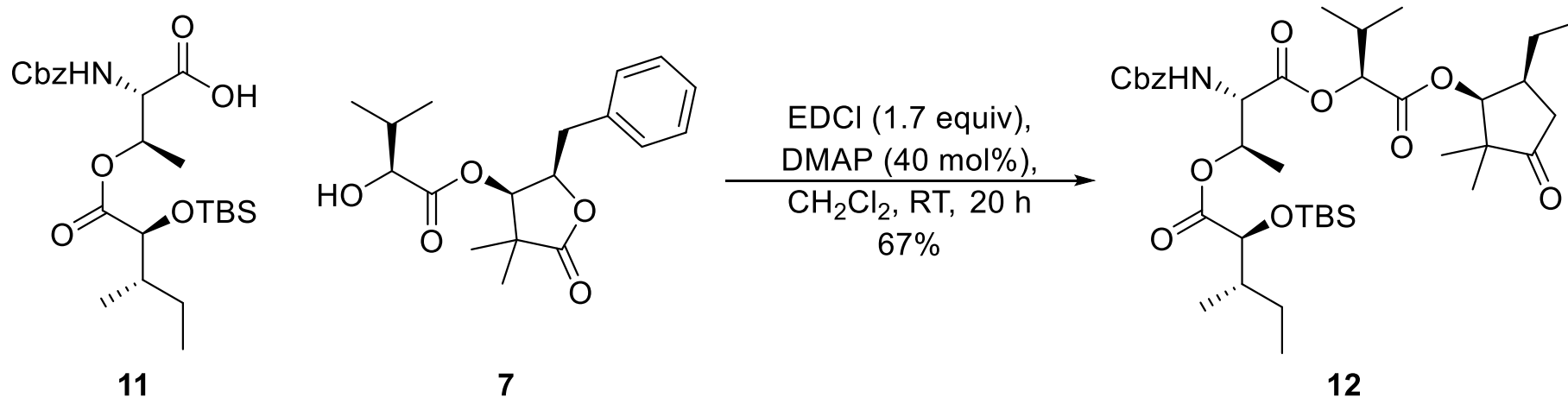


Synthesis of Ester

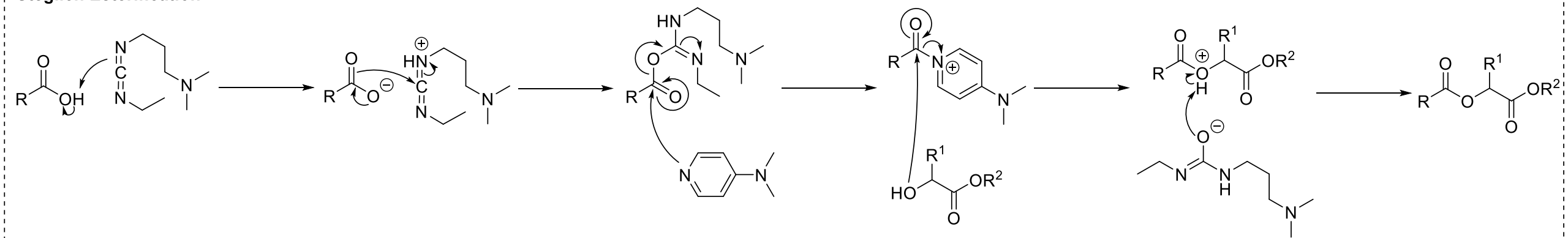


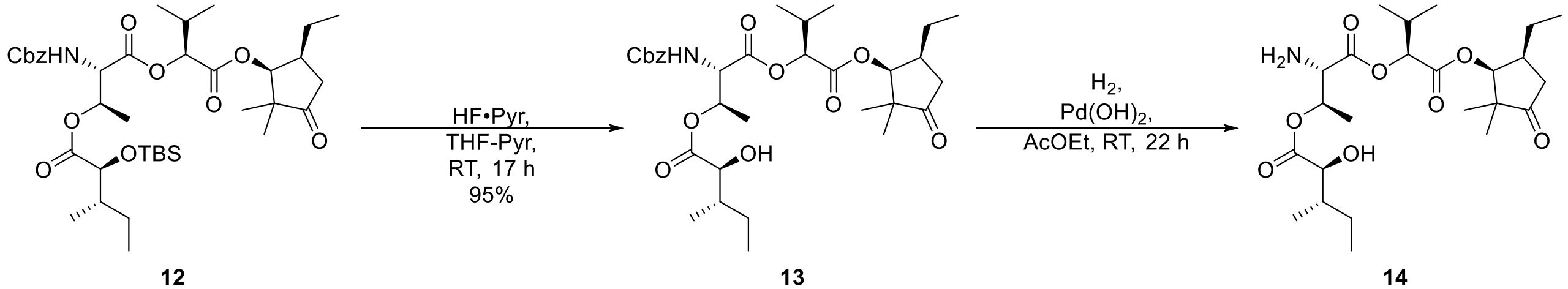
TES Protection/ Deprotection





Steglich Esterification





TBS Deprotection

