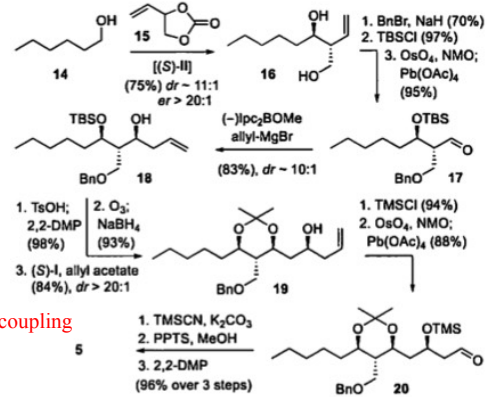
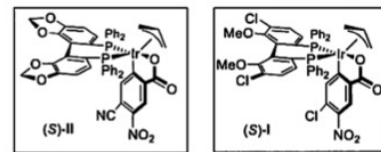


Scheme 3. Synthesis of Northern Fragment 5

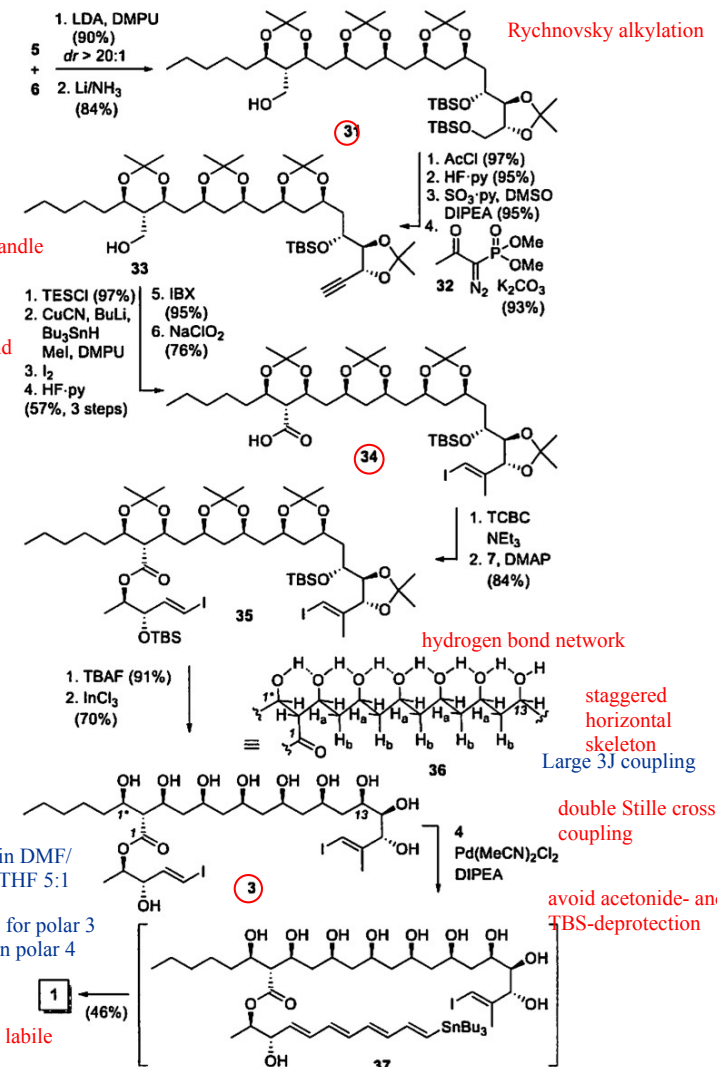


Krische coupling

Krische coupling



Scheme 5. Fragment Coupling and Completion of the Total Synthesis of Pentamycin (1)



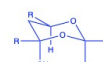
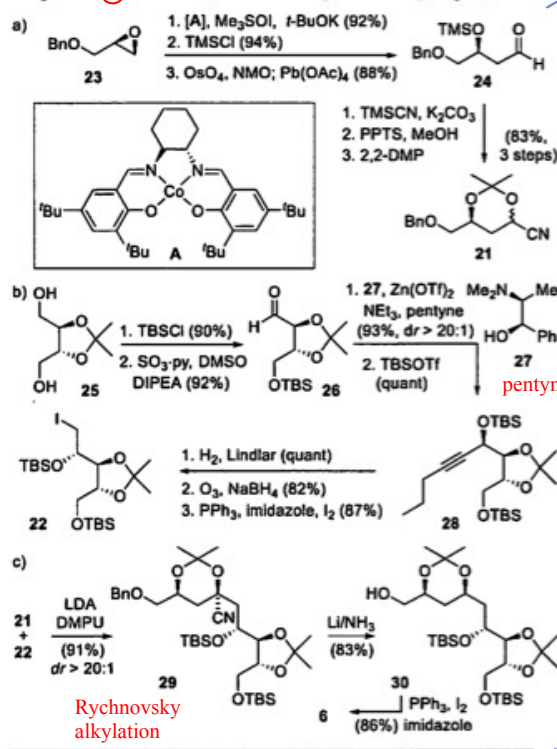
Rychnovsky alkylation

pentyne: cheap and easy to handle

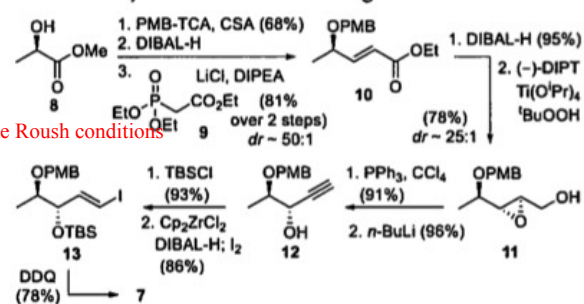
Stannylation and methylation and iodination

Rychnovsky alkylation

Scheme 4. Synthesis of Subunits 21 and 22 of Eastern Fragment 6(a and b) and Subsequent Coupling (c)



Scheme 2. Synthesis of Western Fragment 7



Masamune Roush conditions

crucial for polar 3 and non polar 4

notoriously labile pentaene

in DMF/THF 5:1

Large 31 coupling

double Stille cross coupling

avoid acetonide- and TBS-deprotection

crucial for polar 3 and non polar 4

notoriously labile pentaene

notoriously labile pentaene