Total Synthesis of (-)-lasonolide A

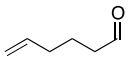
Julia Liu

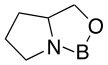
Synthesis Plan for (-)-Lasonolide A

Scheme 1. Devised synthesis plan

Synthesis of subtarget

Synthesis of subtarget 2





Weinreb amide synthesis and Grignard addition

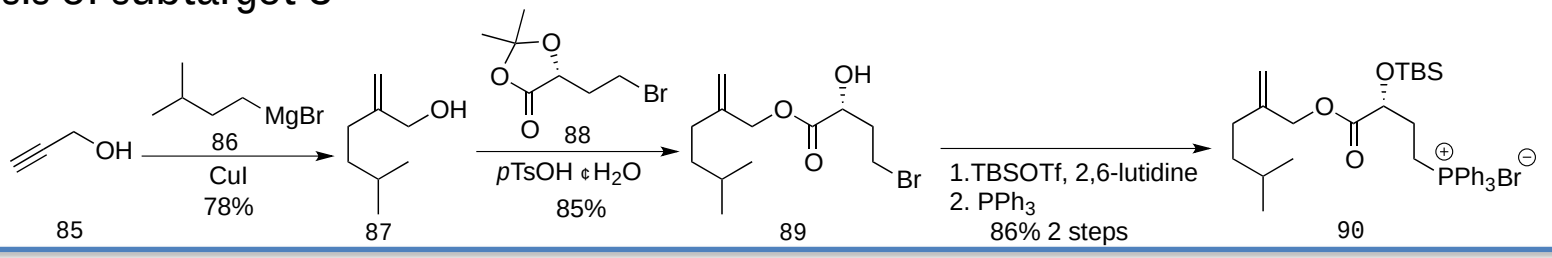
(S)-CBS reduction

Synthesis of subtarget 2

Allyic oxidation with MnO_2

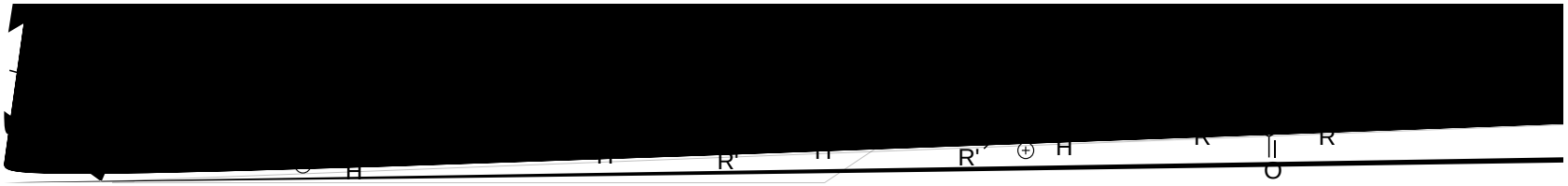
HWE reaction

Synthesis of subtarget 3



85 87 89 90

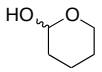
Carbometallation of propargyl alcohol



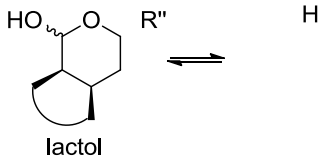
Acid-catalyzed ester formation

Phosphonium halides formation

Synthesis of subtarget 3

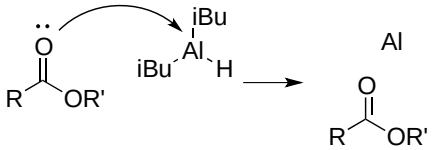


NaH, THF

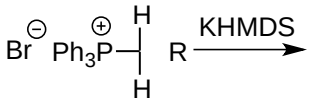


lactol

HWE rxn

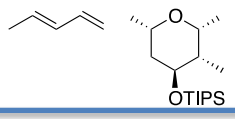


Ester reduction



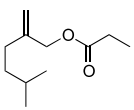
Wittig rxn

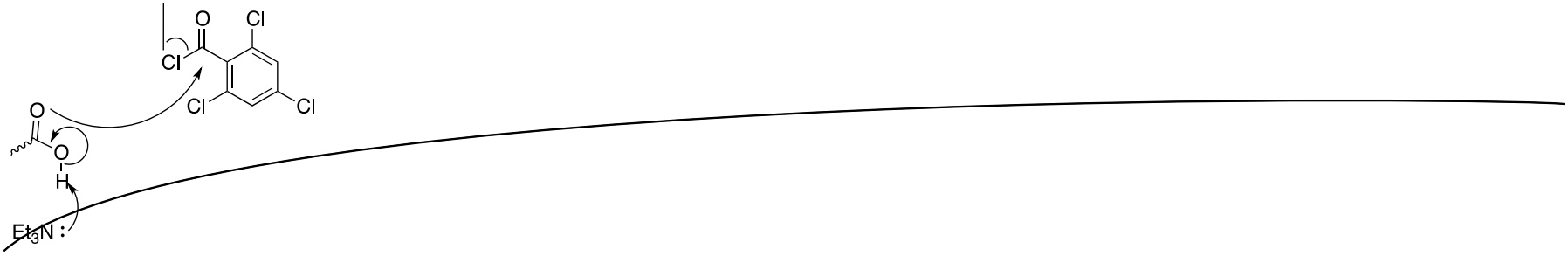
Synthesis of (-)-Lasonolide A



Ru-catalyzed alkene-alkyne coupling

Synthesis of (-)-Lasonolide A





Yamagushi macrolactonization