Enantioselective Total synthesis of (+)-Garsubellin A
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1) Name of compound 1
3) tip: epimerization to β-face-allylated enone
4) Named reaction?
5-7) tip: α-facial preference.
t-BuOK is a bulky base.
8) aldehyde formed

5) LiHMDS, 3
6) L-selectride, then, cat TBAI, 4
7) t-BuOK, 5
8) DIBAL-H (1.2eq)
9) 6 will do double 1,4-addition, one ring was formed.
10) The final THF-ring formed in this step, please suggest a mechanism.

9) TMG, 6
   then, DMP
10) m-CPBA (4.5 eq), H₂O
11) MeLi, Et₂Zn, then, LDA,
    (2-thiophene)Cu(CN)Li, 2
12) Grubbs’ 2nd, 7