Studies on Total Synthesis of the Cytotoxic Marine Alkaloid Agelastatin A
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1) A, Benzene, 0 °C

2) PhMgBr, THF, –60°C

3,4

How would you make A?
O’Methylcarbamate + SOCl₂

What is the name of this reaction? Mislow-Evans

Please draw a mechanism and the frontier molecular orbitals.
Provide a plausible synthesis for D starting with pyrrole.

NOTE: If they say TFA for deprotection of Boc-group, question them on why this might be bad (Protodesilylation).
8) TBAF, THF

9) LiOH, THF, Water

10) PDC, DMF
11) Cs$_2$CO$_3$, MeOH
12, 13, 14) NBS, THF
13) TMSI, DCM
14) MeNCO, NaOH, H₂O

(±)-agelastatin A