A Benzyne-Insertion Approach to Hetisine-Type Diterpenoid Alkaloids: Synthesis of Cossonidine (Daviseine)

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1) LAH  
2) TPAP, NMO  
3) Rh(PPh₃)₃Cl, TMSCH₂N₂, PPh₃, iPrOH  
4) LiHMDS, then 1  
5) 2, MeCN, CsF, 70 °C  
6) Pd(PPh₃)₄, PhSiH₃

how could you synthesis A  
name step 2

what is the alternative method for step 3  
name the intermediate generated by compound 2 of step 5, draw the mechanism of step 5

8) hv, DIH  
9) TBAF  
10) TEMPO, PPh(OAc)₂, NH₄OAc  
11) LiHMDS, then Mel

cossonidine
12) Co$_2$B,BH$_3$`^BuNH$_2$, MeOH, heat
13) LAH
14) n-BuLi, hv
15) Na, NH$_3$(l), then HCl

hint: That the author used sequence step 12-13 is because a global reduction method failed by LAH
step 14 is a photoredox reaction, please draw the mechanism

Name the reaction that would take place after addition of pyrrolidine
using step 17-18 sequence is because direct attempt failed.

what is the function of step 20-21 sequence?