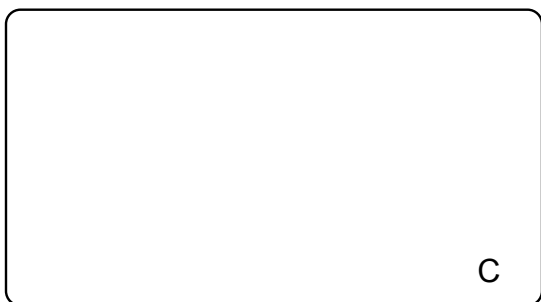
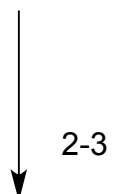
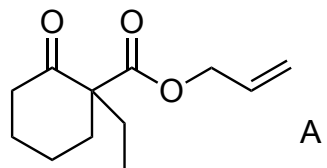


Synthesis Challenge #11 AG Wegner

JLU Giessen

23.01.2014



1) $\text{Pd}_2(\text{dba})_3$, (*S*)-*t*-BuPhox, THF, 25 °C

2) disiamyl borane, THF, 0 °C to rt, then NaI, NaOAc, Chloramine-T, MeOH, H₂O,
3) NaN₃, DMF, rt

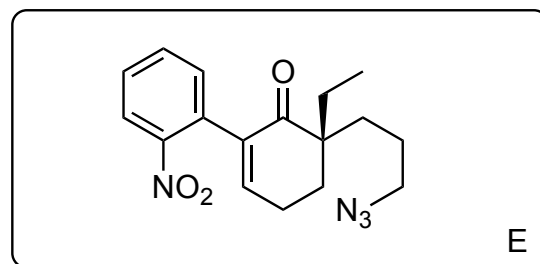
Please, provide a detailed mechanism for step 2).

↓ 4-5



4) IBX, DMSO, 80 °C
5) I₂, DMAP, CCl₄/Py (1:1)

↓ 6



6) 2-NO₂C₆H₄B(OH)₂, Pd₂(dba)₃,
JohnPhos, Ba(OH)₂·8 H₂O, THF,
H₂O

What is JohnPhos?

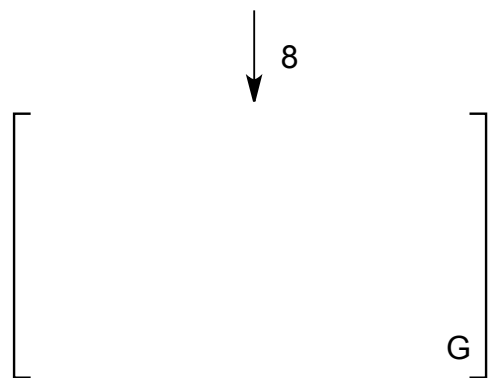
↓ 7



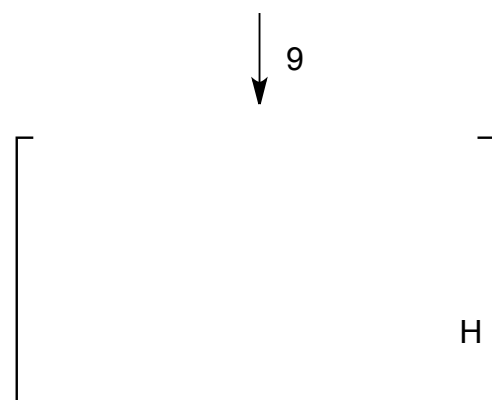
7) O₃, NaHCO₃, -78°C,
CH₂Cl₂/MeOH, then Ac₂O, Et₃N,
0°C to RT

Please, provide a detailed Mechanism for the transformation from F to I.

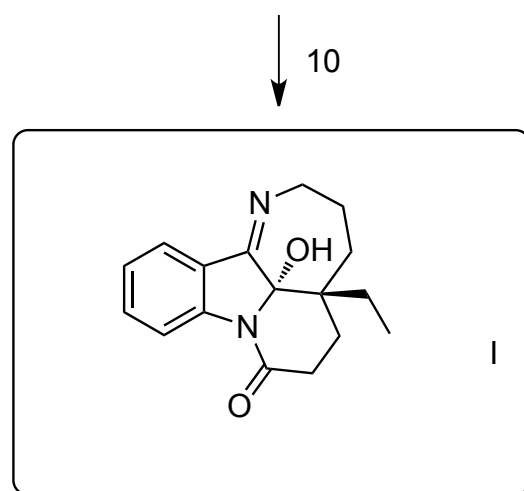
8) Pd/C H₂



9) KOH, EtOH



10) O₂, then, Me₂S



Please, draw a 3D representation of I.

