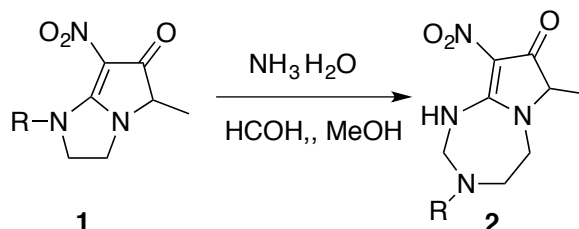
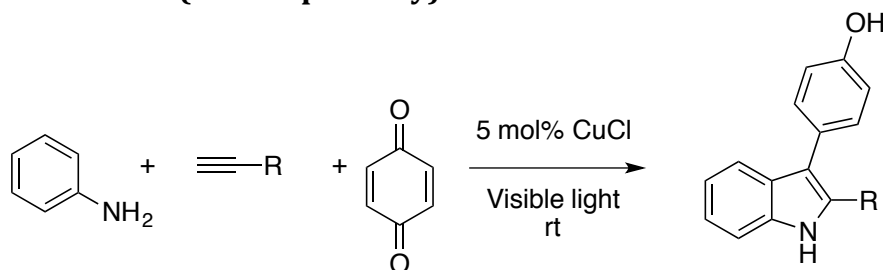


1. Propose possible mechanism for one-pot route for the synthesis of Triazepin-8-one derivatives



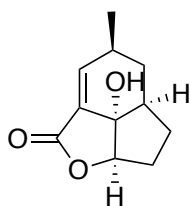
H. Zeng et al., Synlett, 2015, 26, A-E, DOI: 10.1055/s-0035-1560499

2. Propose possible mechanism for this photoinduced Cu-catalyzed transformation (radical pathway)



A. Sagadevan et al., Angew. Chem. Int. Ed. 2015, 54, 13896-13901

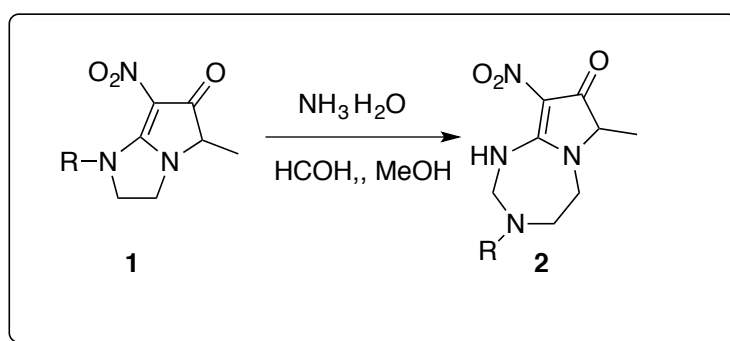
3. Give the retrosynthetic analysis of (-)-Galiellalactone



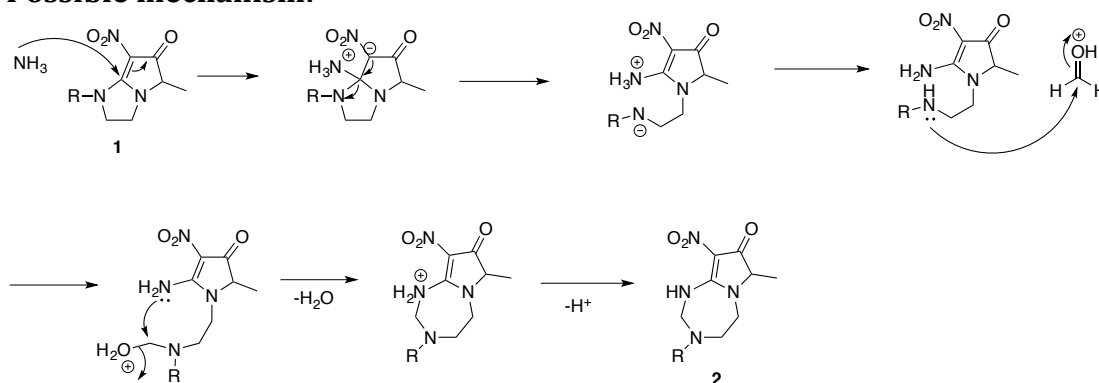
T. Kim et al, JOC, 2015, 80, 21, DOI: 10.1021/acs.joc.5b02121

Solutions:

1.

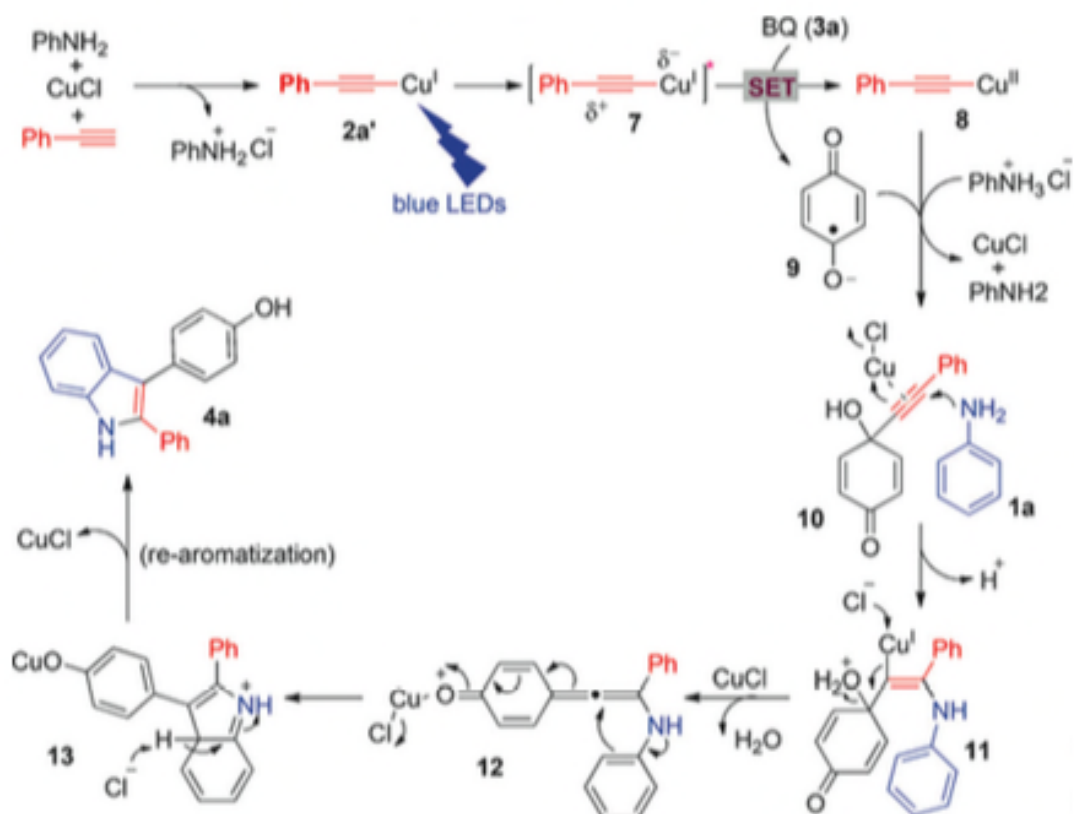


Possible mechanism:



H. Zeng et al., Synlett, 2015, 26, A-E, DOI: 10.1055/s-0035-1560499

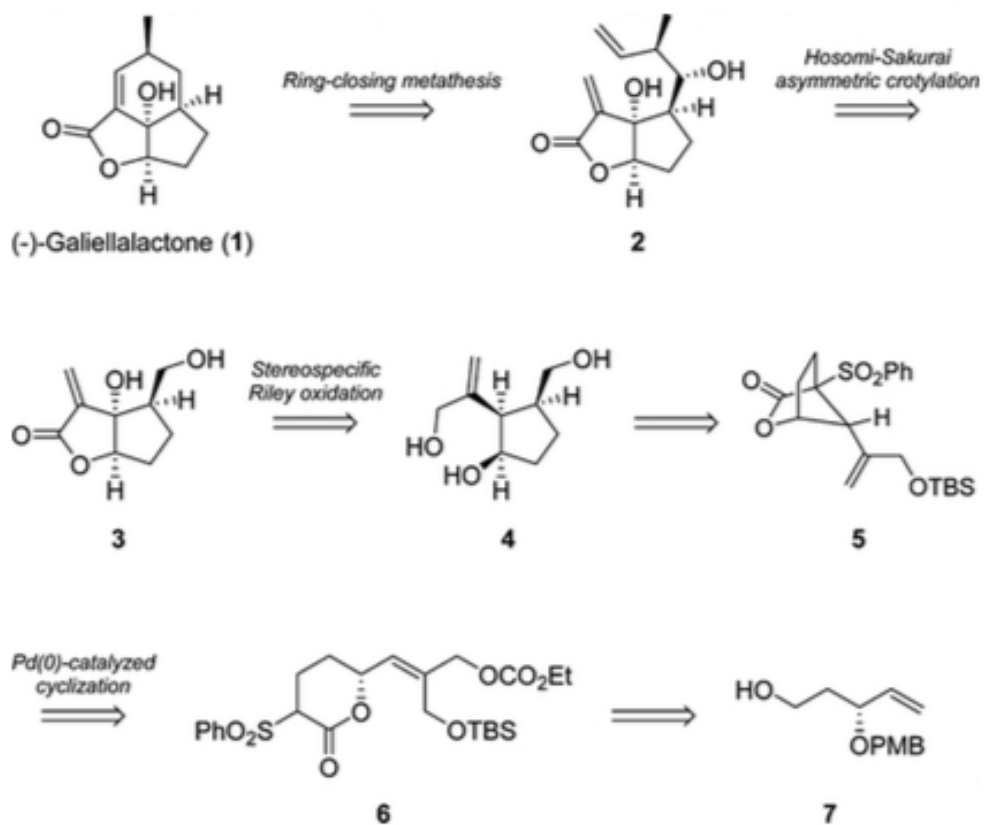
2. Proposed mechanism



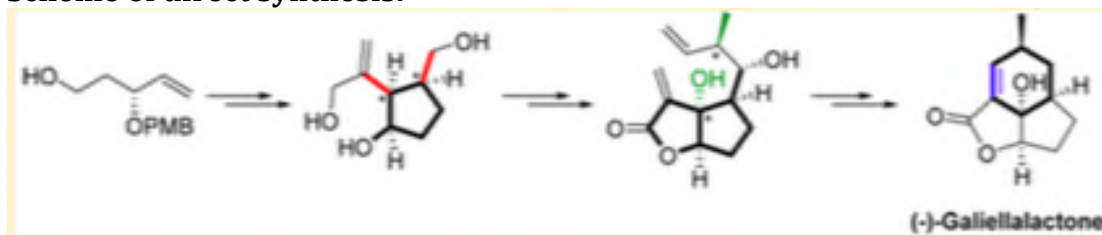
H. Zeng et al., Synlett, 2015, 26, A-E, DOI: 10.1055/s-0035-1560499

3. Retrosynthesis:

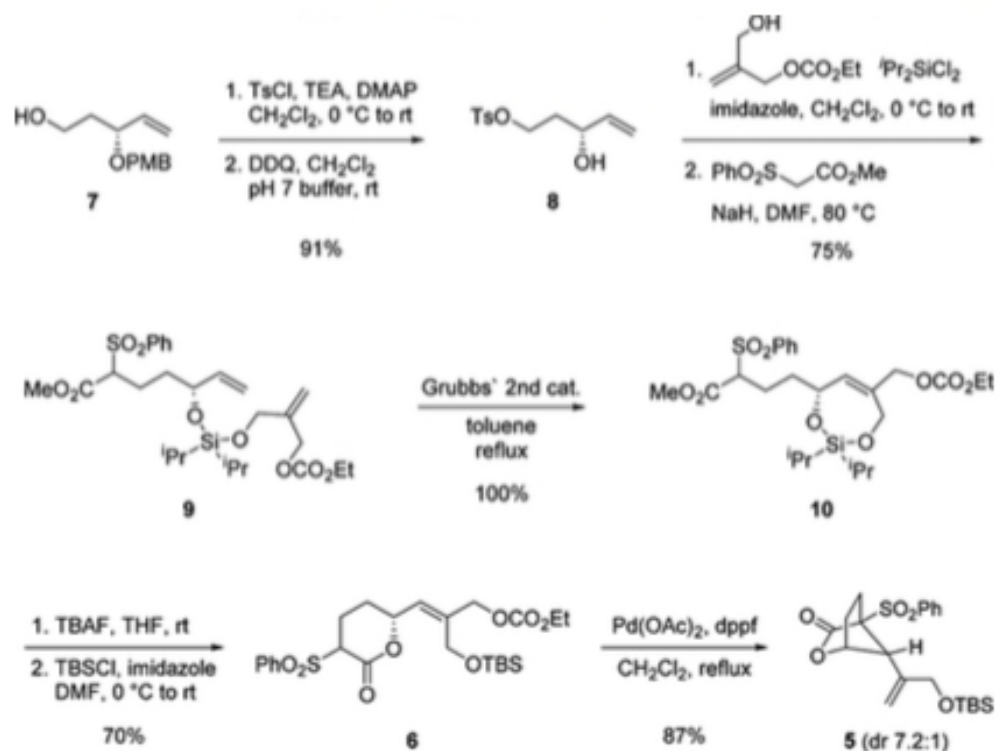
Scheme 1. Retrosynthetic Analysis of (-)-Galiellalactone (1)



Scheme of direct synthesis:



Scheme 2. Synthesis of [2.2.1] Bridged Bicyclic Lactone 5



Scheme 3. Synthesis of Dihydroxy Bicyclic Lactone 3

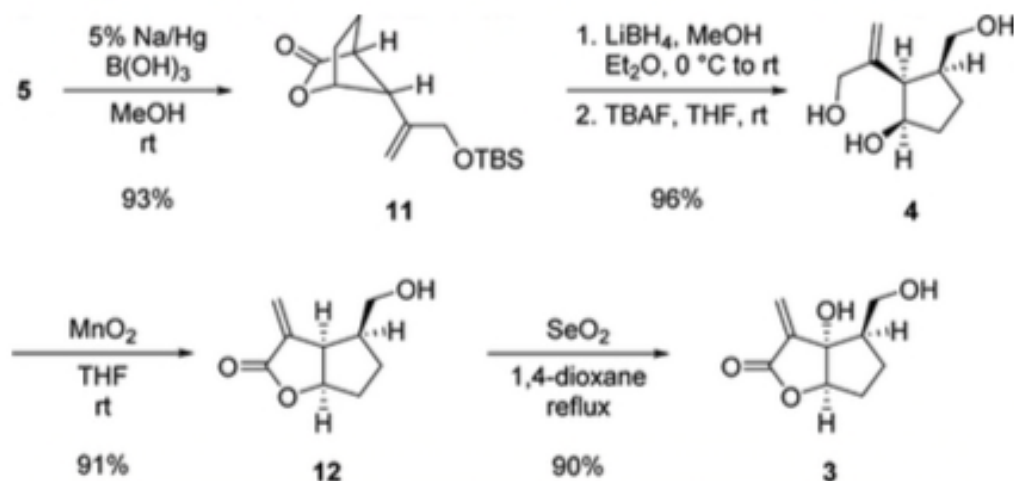
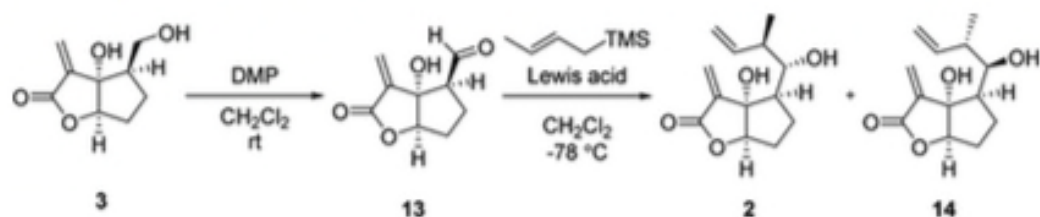


Table 2. Diastereoselective Hosomi–Sakurai Crotylation of Aldehyde 13^{ca}



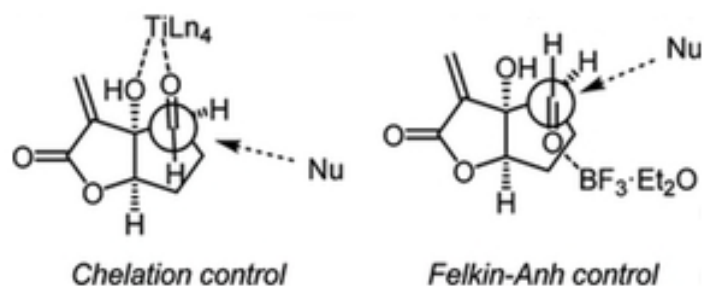


Figure 3. Diastereoselectivity in the Hosomi–Sakurai crotylation of aldehyde 13.

Scheme 4. Completion of (–)-Galiellalactone (1) Synthesis

