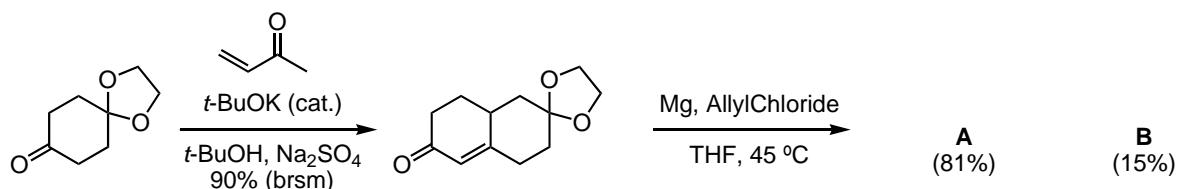
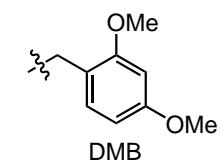


Q1: Propose a reaction mechanism to give **B**.

Q2: Propose a synthetic route from **B** to hirsutellone B.

Sorensen, E. J. et al. *J. Org. Chem.* **2013**, 78, 9584-9607.



1. KH, 18-Crown-6, THF, 65%
2. OsO₄, NaIO₄, 2,6-lutidine, dioxane-H₂O (3:1), 92%
3. t-BuOK, THF-t-BuOH (3:1), 99%

A $\xrightarrow{4. (\text{imid})_2\text{C=S, DMAP, CH}_2\text{ClCH}_2\text{Cl}, 91\%}$
 $5. n\text{-Bu}_3\text{SnH, AIBN, toluene, 90 }^\circ\text{C, 85\%}}$

1. KH, 18-Crown-6, THF, 62%
2. OsO₄, NaIO₄, 2,6-lutidine, dioxane-H₂O (3:1), 92%
3. t-BuOK, THF-t-BuOH (1:1), 99%

B $\xrightarrow{4. \text{NH}_2\text{NH}_2, \text{KOH, diethylene glycol, 200 }^\circ\text{C, 92\%}}$
 $5. \text{IBX, CH}_2\text{Cl}_2, \text{DMSO, 0 }^\circ\text{C to rt, 91\%}}$

