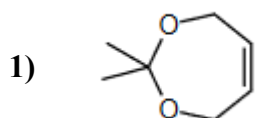


Practice problems:

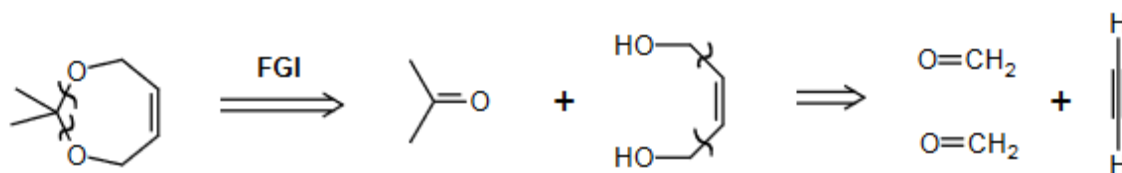
Propose a retrosynthetic analysis of the following molecules showing your thinking and the reagents that would be employed in the forward synthesis. **Follow the individual note/clue** for each molecule.

Model answers:

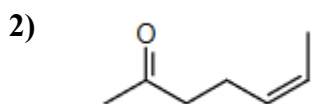
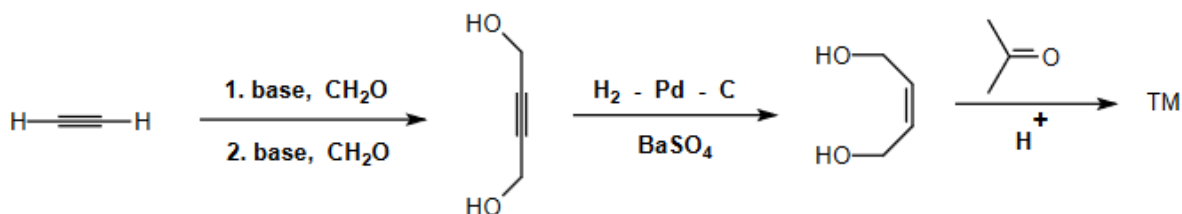


Note: Use acetylene as one of the starting materials

Retro Synthesis:

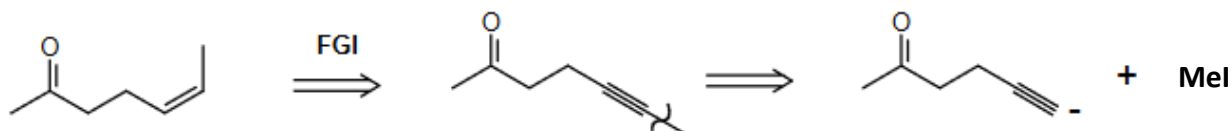


Forward Synthesis:

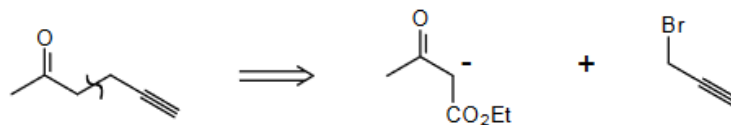


Clue: Get the *cis*-olefin through hydrogenation of alkyne.

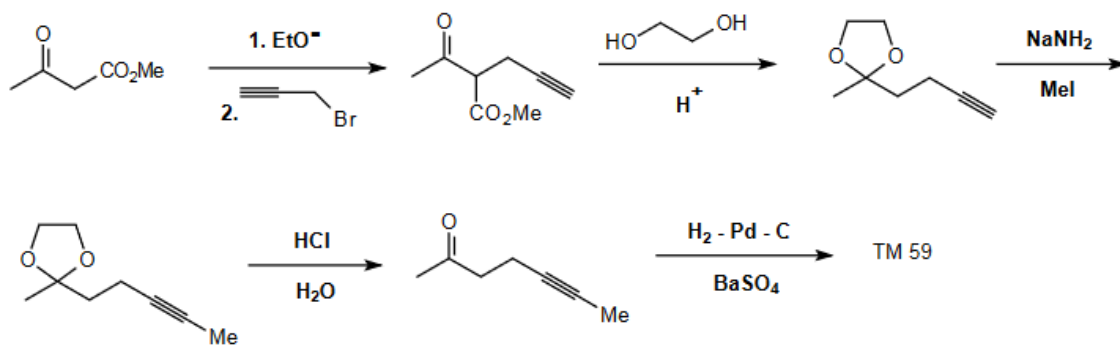
Retro Synthesis:



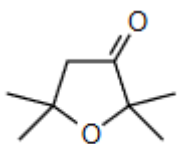
Now we can disconnect the ketone using our synthetic equivalent for the acetone anion:



Forward Synthesis:

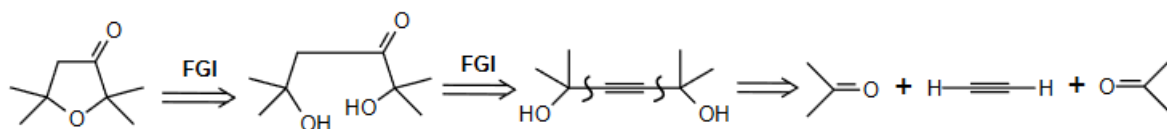


3)

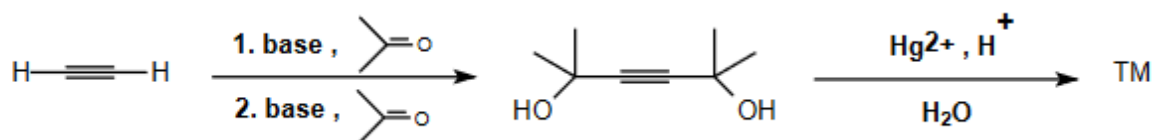


Note: Use acetylene as one of the starting materials

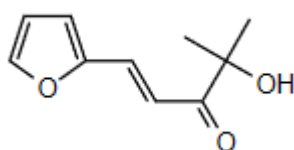
Retro Synthesis:



Forward Synthesis:

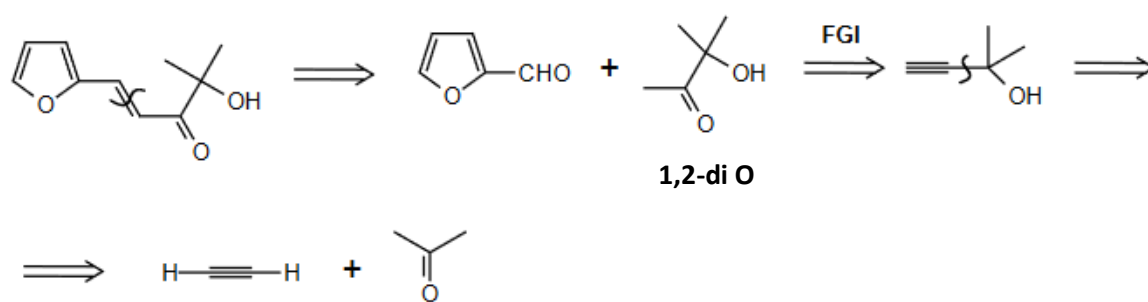


4)



Note: Use acetylene as one of the starting materials

Retro Synthesis:



Forward Synthesis:

