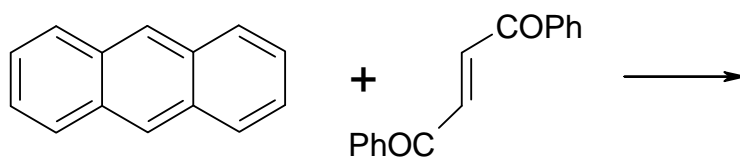
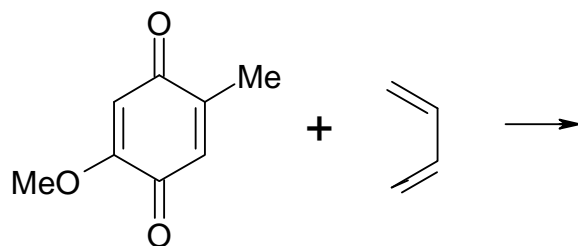


Predict the product in the following reactions

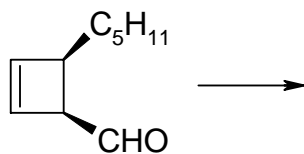
1.



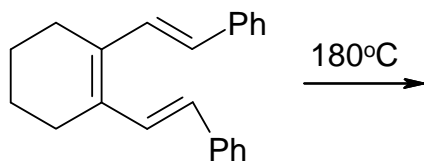
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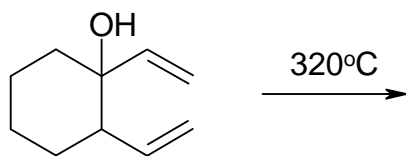
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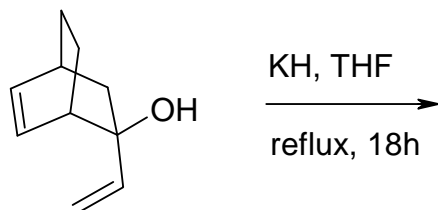
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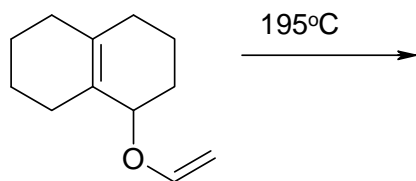
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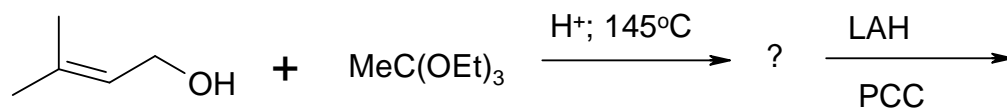
6.



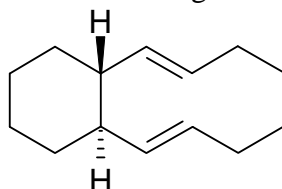
7.



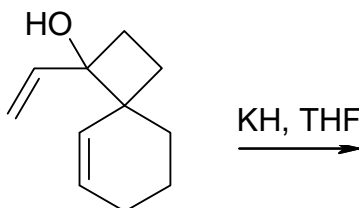
8.



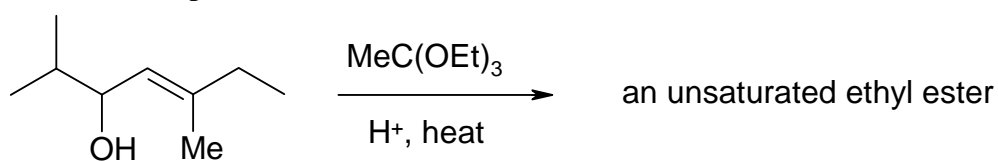
9. The following compound racemizes on heating at 50°C , Provide an explanation?



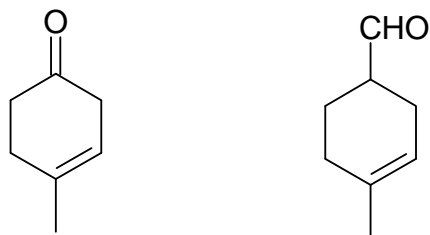
10.



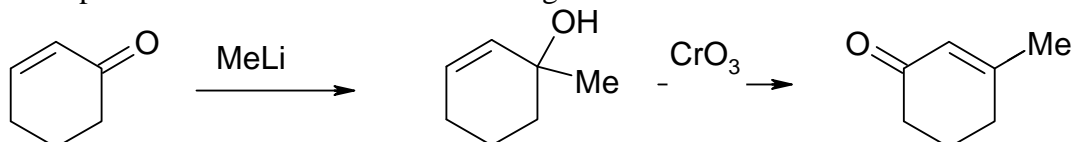
11. Predict the product of this reaction



12. How do you synthesize the following two cyclic compounds by applying pericyclic reactions?

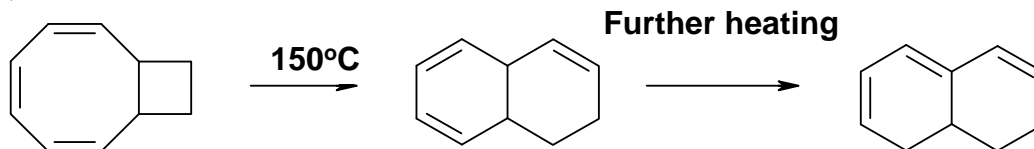


13. Explain the mechanism of the following reaction?



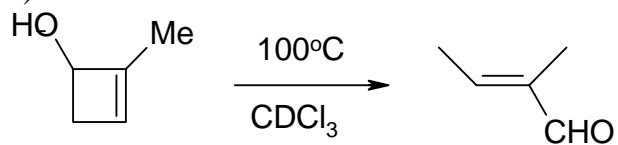
14. Suggest a mechanism by which each transformation could occur. More than one step may be involved.

a)



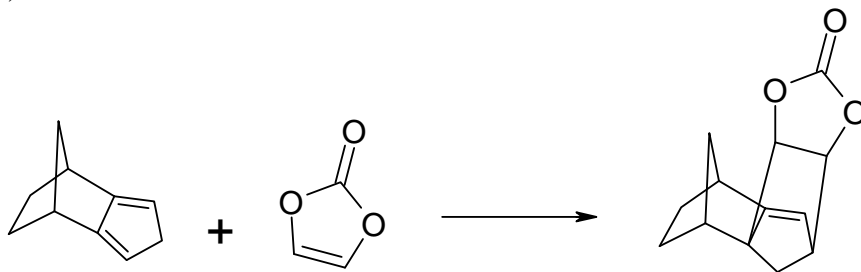
Hint: electrocyclic opening, closure, 1,5-H shift

b)



Hint: electrocyclic, 1,3-H shift

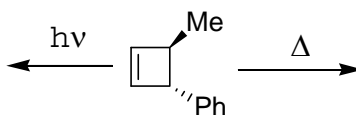
e)



Hint: 1,5 H shift, 4+2

15. Predict the major products:

(a)



(b)

