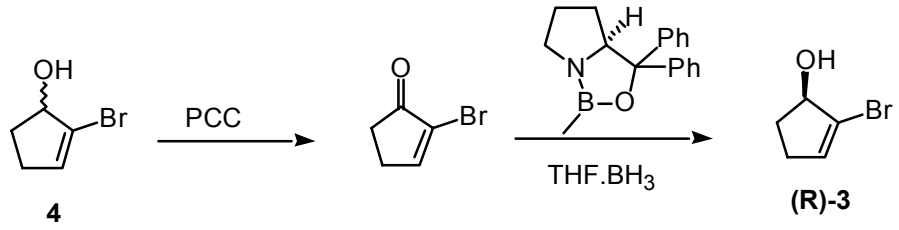
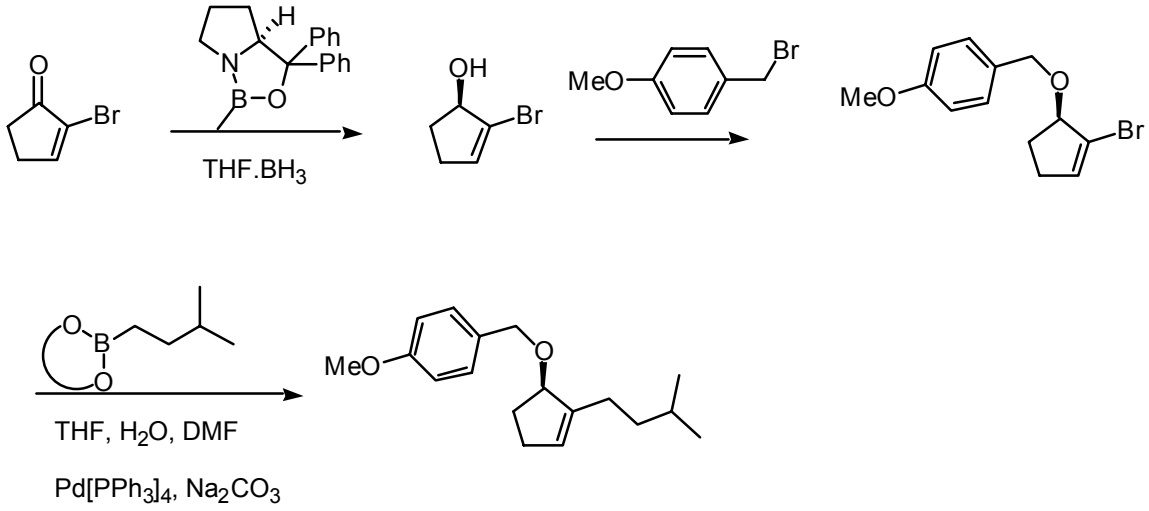
Answer Key for Problem Set 7

1.



4 **(R)-3**

2.



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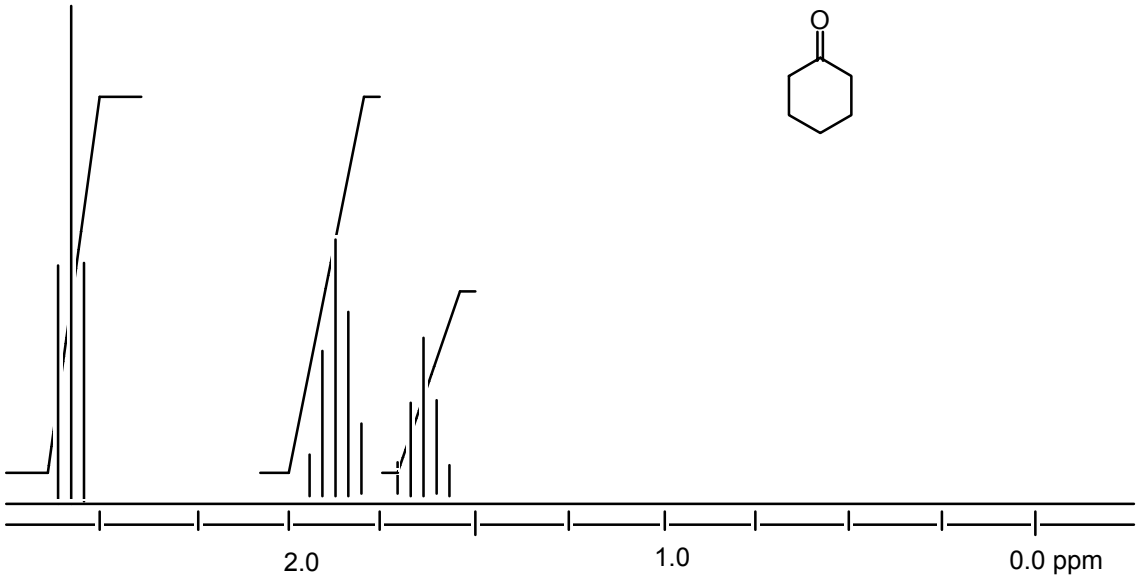

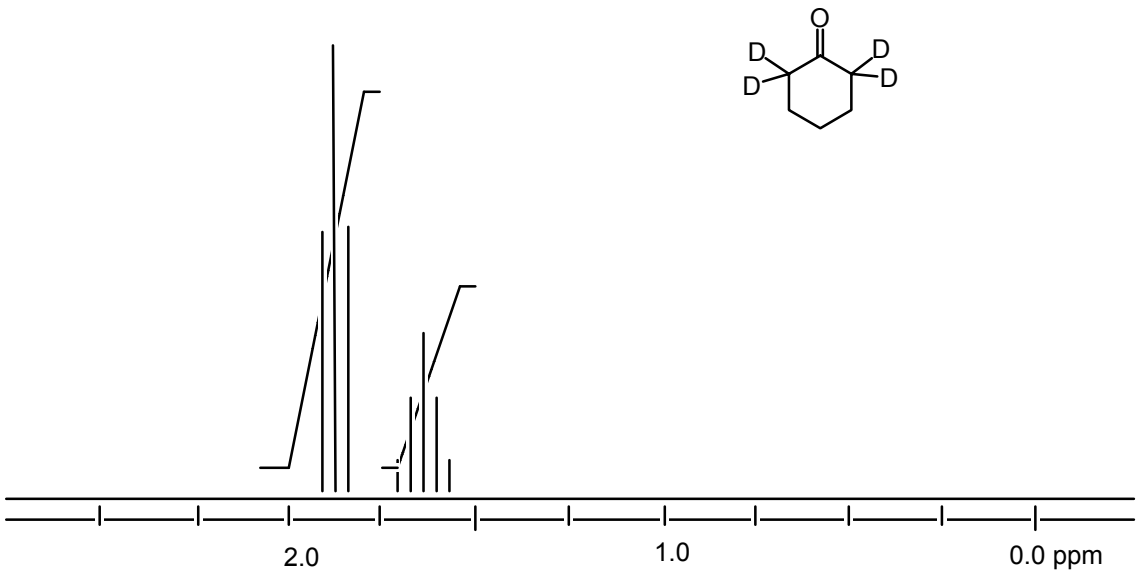

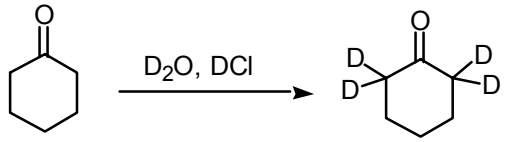

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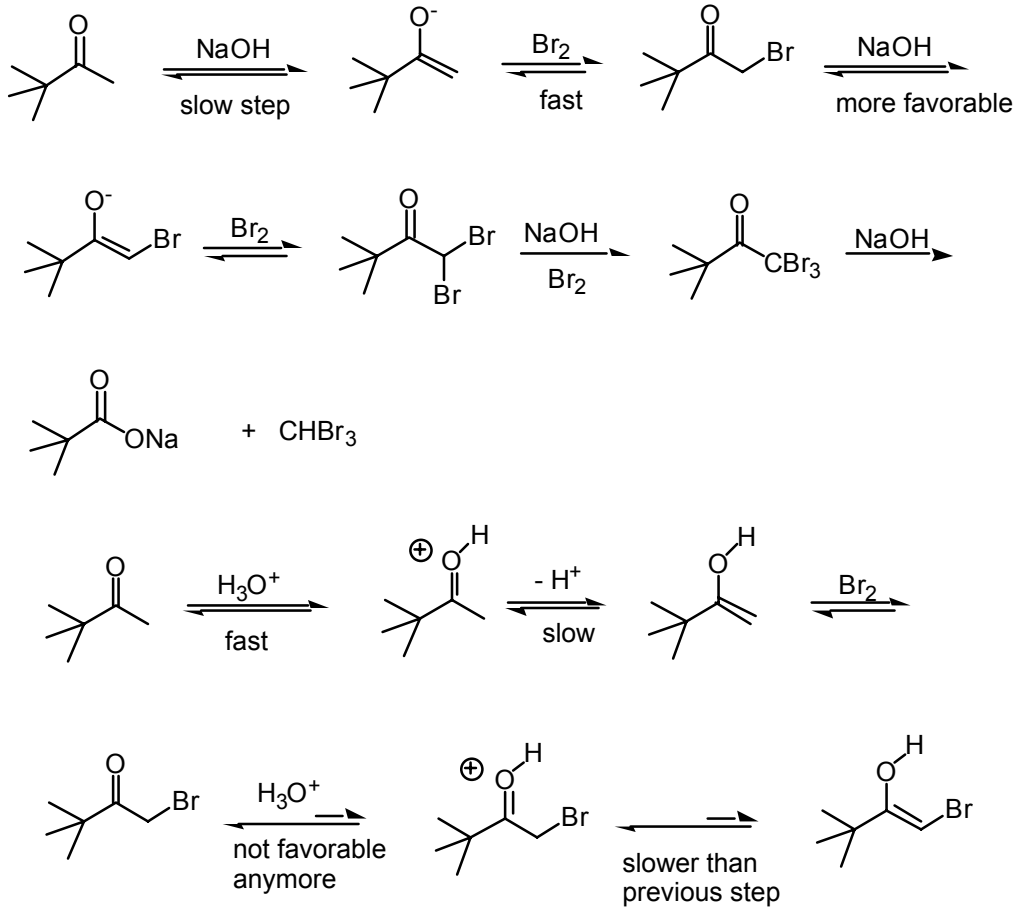
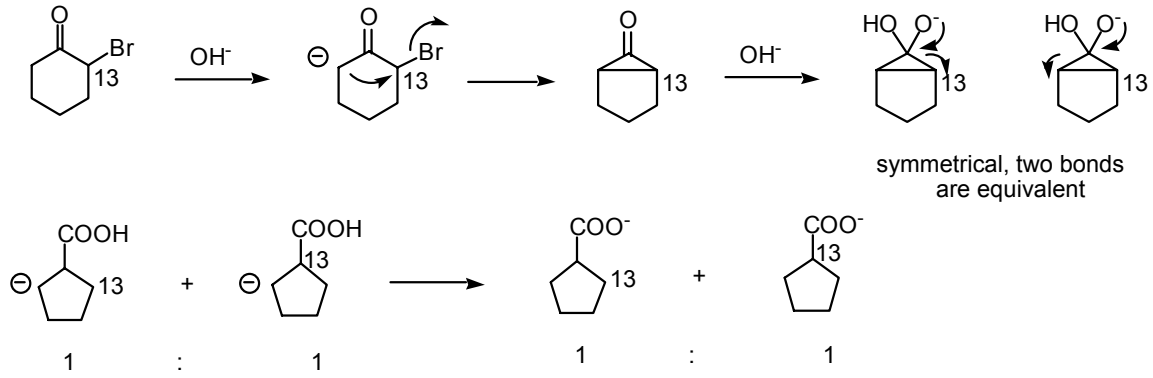
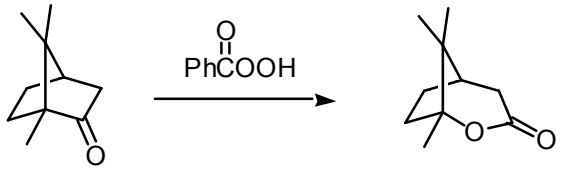

NaOH
slow step
Br2
fast
NaOH
more favorable
Br2
Br2
NaOH
Br2
NaOH
ONa
+ CHBr3
H3O+
fast
- H+
slow
Br2
H3O+
not favorable
anymore
slower than
previous step

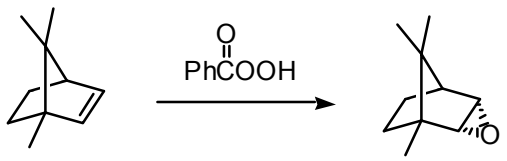
5.


OH-
OH-
symmetrical, two bonds
are equivalent
COOH
+
COOH
COO-
+
COO-
1 : 1
1 : 1

6. a)

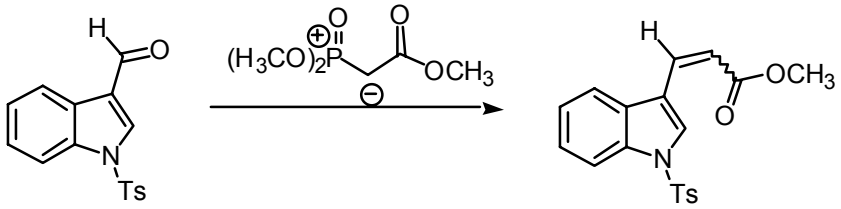

PhCOOH

b)

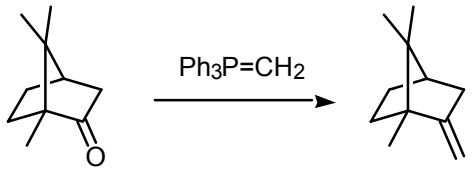


build a model

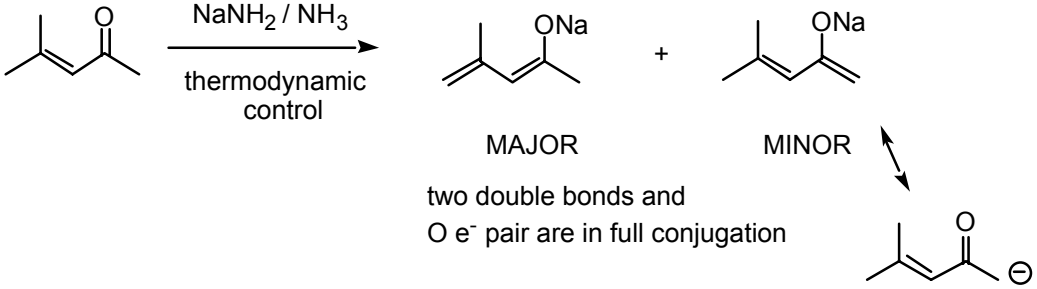
c)



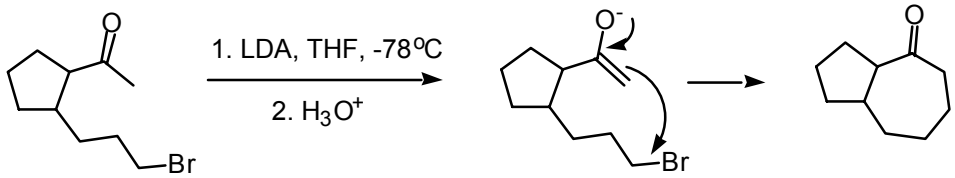
d)



7.

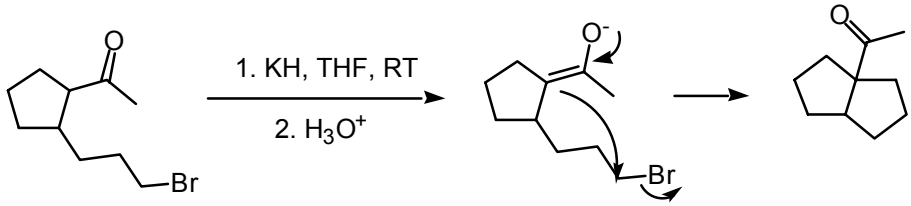


8. a)



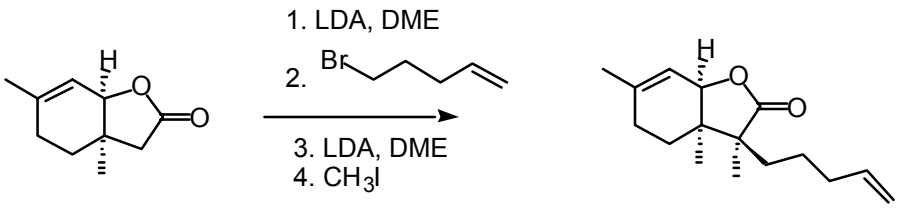
kinetic enolate

b)



thermodynamic enolate

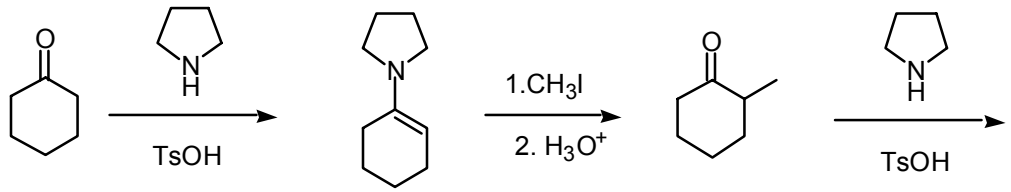
9.

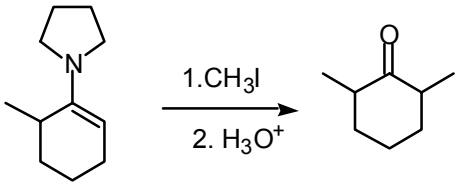


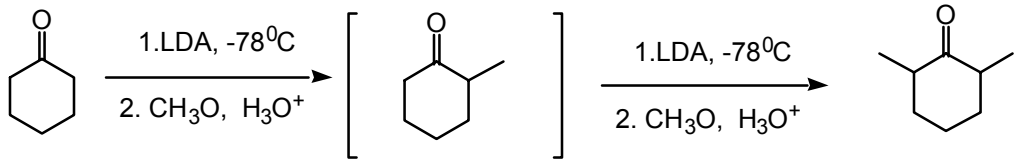
DME: 1,2-dimethoxy ethane

build a model

10.

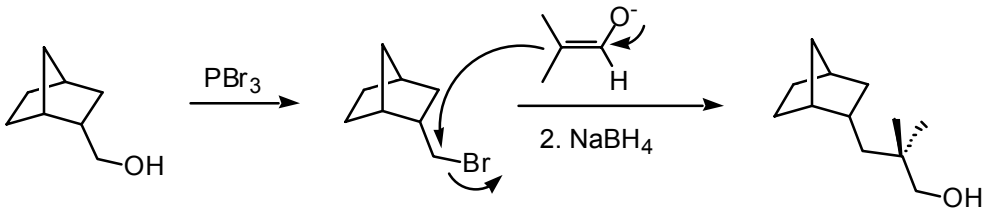






this pathway is OK, but in practice, a mixture of products would be formed

11.



12. a) Baeyer Villiger reaction

b) Generation of a complex chiral compounds from achiral reactant (desymmetrization), enzymes and catalysts are environmentally efficient.