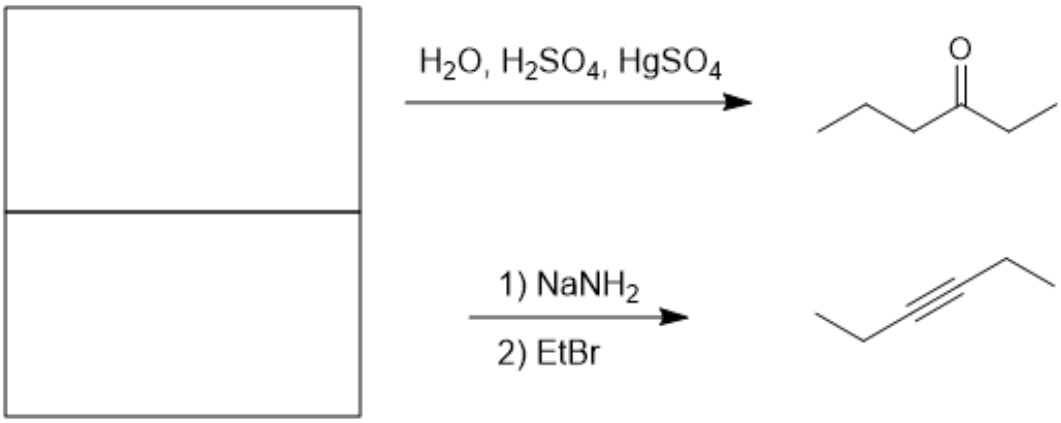
Library of Organic Chemistry Active Learning Resources LOCAL

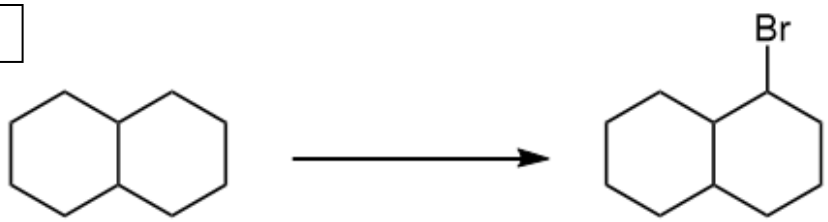
Chapter 11 Synthesis (& Review Ch. 8-10)

Identify the missing starting materials. (Do you have flash cards like these? You should!)



Transform the given starting material to the desired target moleculte (TM).

1



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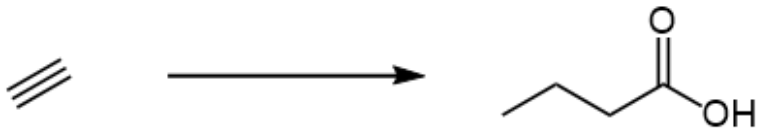

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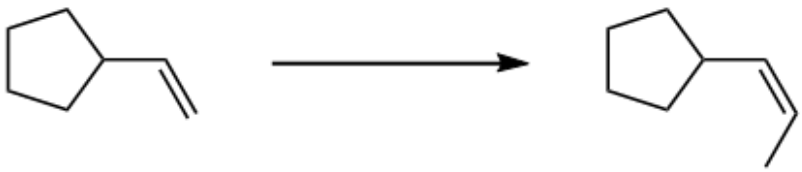
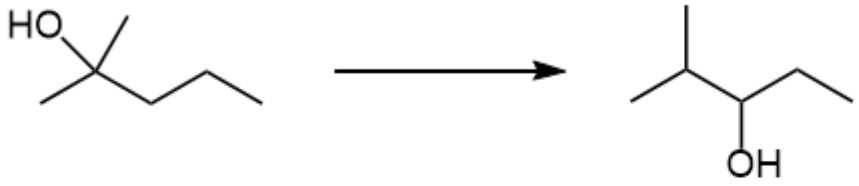
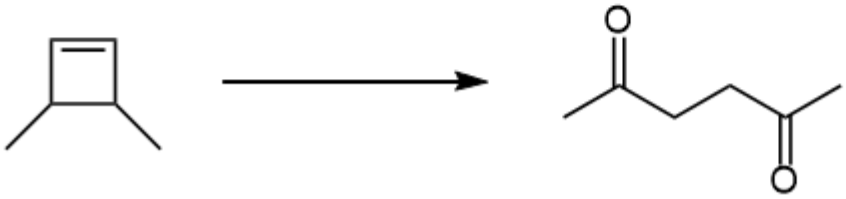


Transform the given starting material to the desired target moleculte (TM).

4

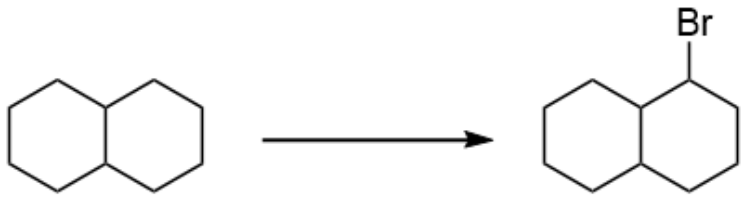


5



6 Synthesize 1-butyne, using acetylene as your only source of carbon atoms.

1 Which reagents would be best to achieve the following synthesis?



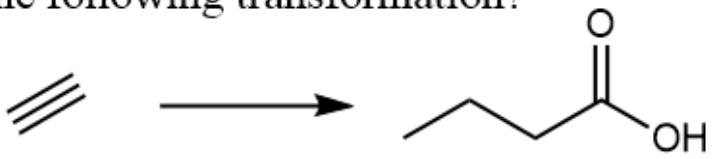
A) 1) Br_2, hν
2) NaOEt
3) HBr, ROOR

B) 1) Br_2, hν
2) NaOEt
3) HBr

C) 1) Br_2, hν
2) *t*-BuOK
3) HBr, ROOR

D) 1) Br_2, hν
2) *t*-BuOK
3) HBr

2 Which is the best set of reagents to accomplish the following transformation?



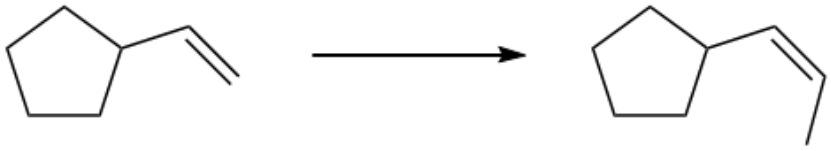
A) 1) $NaNH_2$
2) EtBr
3) H_2O, H_2SO_4
$HgSO_4$

B) 1) $NaNH_2$
2) EtBr
3) BH_3-THF
4) H_2O_2, NaOH

C) 1) $NaNH_2$
2) PrBr
3) O_3
4) H_2O

D) 1) $NaNH_2$
2) EtBr
3) O_3
4) H_2O

3 Which reagents would be best to achieve the following synthesis?



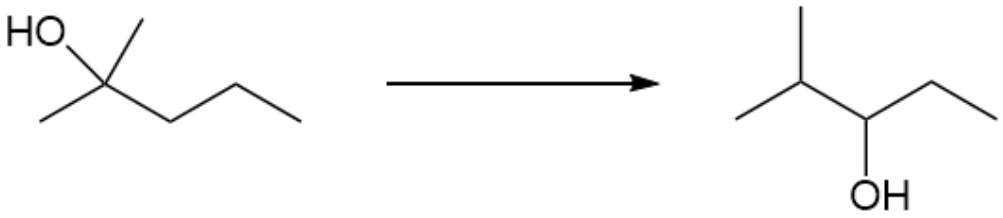
A) 1) $NaNH_2$, NH_3
2) CH_3I
3) Na, NH_3

B) 1) $NaNH_2$, NH_3
2) CH_3I, Lindlar's cat.

C) 1) Br_2
2) xs $NaNH_2$; H_2O
3) $NaNH_2$, NH_3
4) CH_3I
5) H_2, Lindlar's cat.

D) 1) xs HBr
2) xs $NaNH_2$; H_2O
3) $NaNH_2$, NH_3
4) CH_3I
5) Na, NH_3

4 Which reagents would be best to achieve the following synthesis?



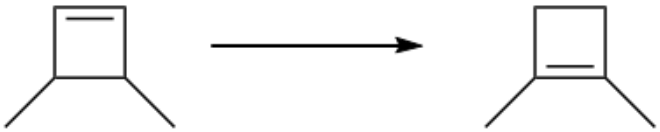
A) 1) TsCl, py
2) *t*-BuOK
3) H_2O, H_2SO_4

B) 1) conc. H_2SO_4, heat
2) H_2O, H_2SO_4

C) 1) TsCl, py
2) *t*-BuOK
3) BH_3-THF
4) H_2O_2, NaOH

D) 1) conc. H_2SO_4, heat
2) BH_3-THF
3) H_2O_2, NaOH

5 Which reagents would be best to achieve the following synthesis?



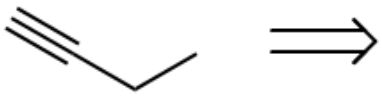
A) 1) HBr
2) *t*-BuOK
3) HBr, ROOR
4) NaOEt

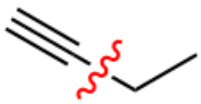
B) 1) HBr
2) *t*-BuOK
3) HBr
4) *t*-BuOK

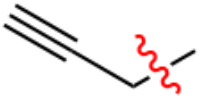
C) 1) HBr
2) NaOEt
3) HBr, ROOR
4) *t*-BuOK

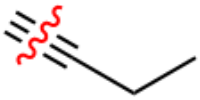
D) 1) HBr
2) NaOEt
3) HBr
4) NaOEt

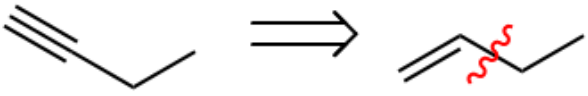
6 Which represents a logical disconnection in the retrosynthesis of the given target molecule?



A) 

B) 

C) 

D) 

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