

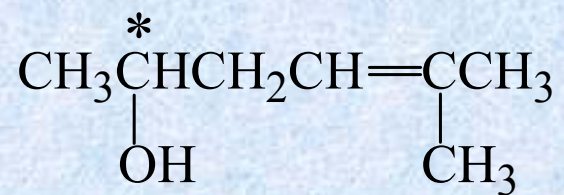
# 同步训练七

醇、酚、醚

## 一、选择题:

1. 5-甲基-4-己烯-2-醇的立体异构体数目有: ( A )

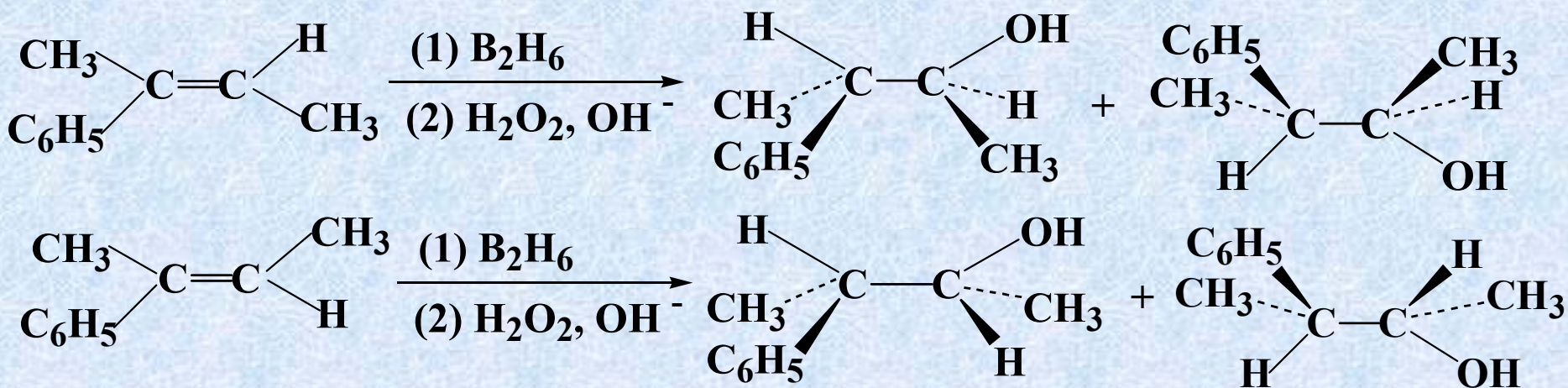
A) 2      B) 4      C) 5      D) 6



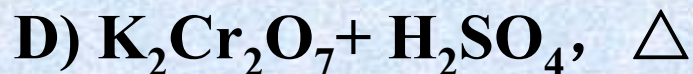
5-甲基-4-己烯-2-醇

2. (Z)-2-苯基-2-丁烯与(E)-2-苯基-2-丁烯经硼氢化反应间接水合制得的醇中, 下列哪种说法正确: ( D )

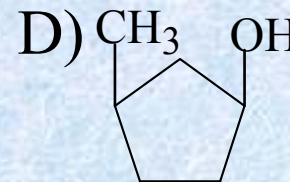
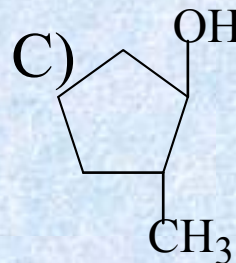
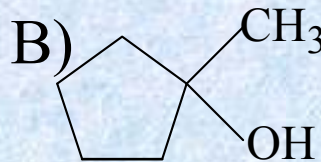
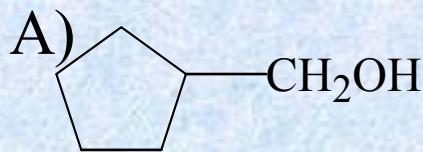
- A) 前者制得的醇为一对对映体, 后者仅一个化合物
- B) 两者制得的醇均为一对顺反异构体
- C) 前者制得的醇为一个化合物, 后者制得的醇为一对外消旋体
- D) 两者制得的醇均为一对外消旋体



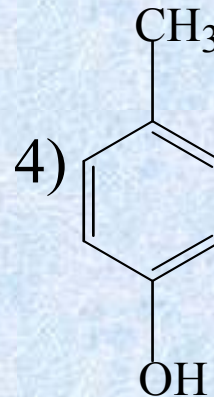
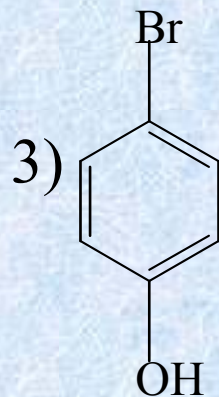
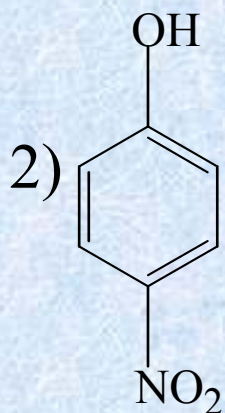
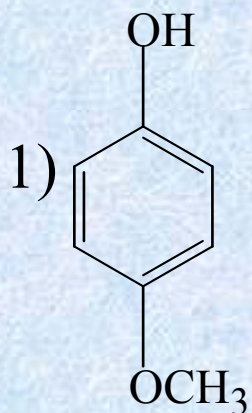
3. 环己醇与下列试剂不反应的是: ( B )



4. 下列各醇与 $\text{HBr}$ 反应的相对速率最快的是: ( B )



5. 下列各化合物的酸性大小:( A )



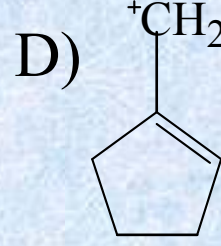
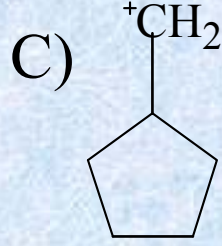
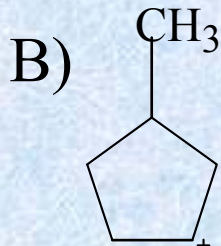
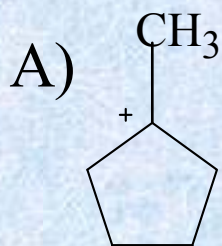
A)  $2 > 3 > 4 > 1$

B)  $2 > 4 > 1 > 3$

C)  $4 > 2 > 1 > 3$

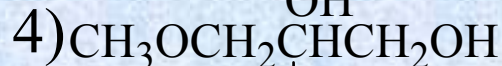
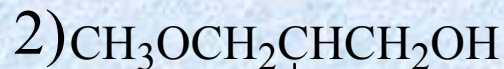
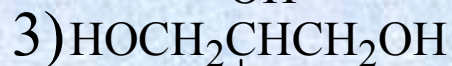
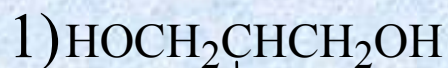
D)  $3 > 2 > 1 > 4$

6. 下列各碳正离子最稳定的是:( D )



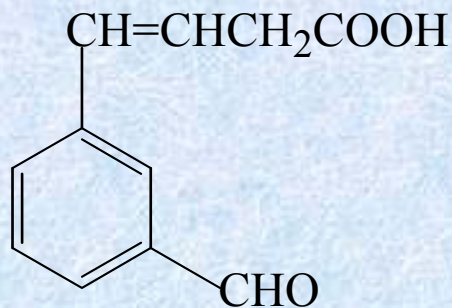


7. 下列醇沸点顺序为:( B )

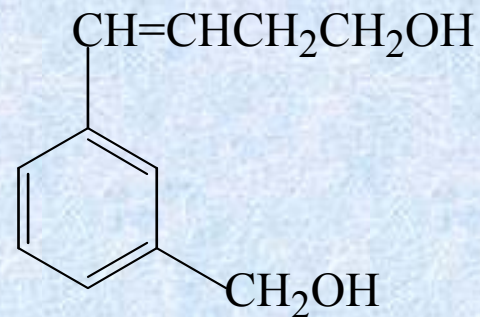


A) 1 > 2 > 3 > 4    B) 1 > 3 > 2 > 4    C) 2 > 4 > 1 > 3    D) 3 > 2 > 1 > 4

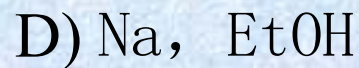
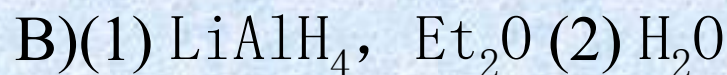
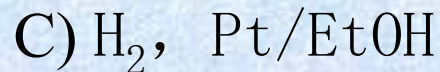
8. 将化合物



还原为



的最好方法是:( B )



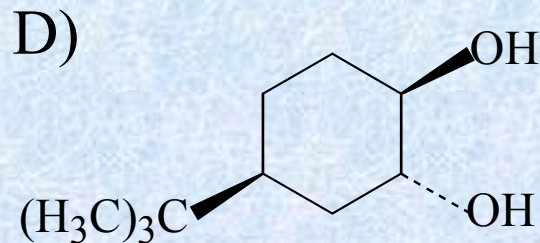
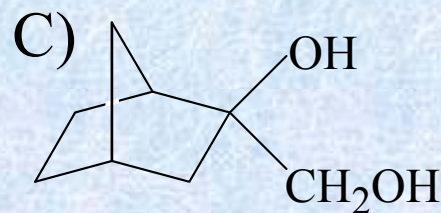
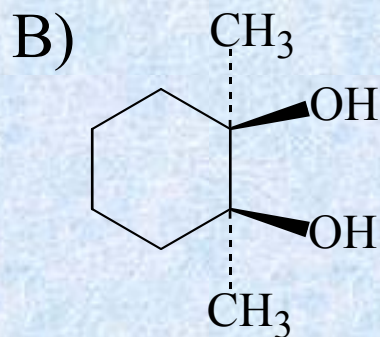
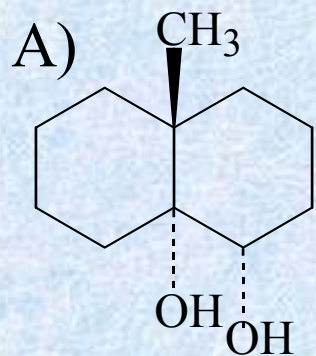
9. 下列碱性最大的是: ( C )

A)  $C_6H_5O^-$  B)  $CH_3(CH_2)_2CH_2O^-$  C)  $(CH_3)_3CO^-$  D)  $CH_3CH_2\overset{\overset{CH_3}{|}}{CHO}^-$

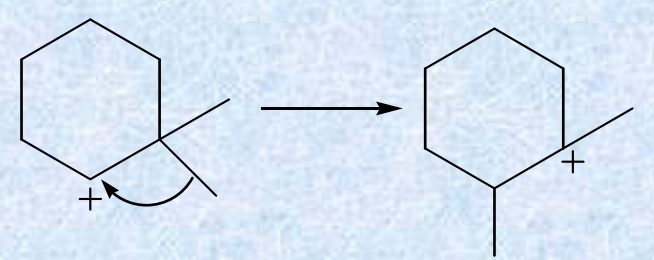
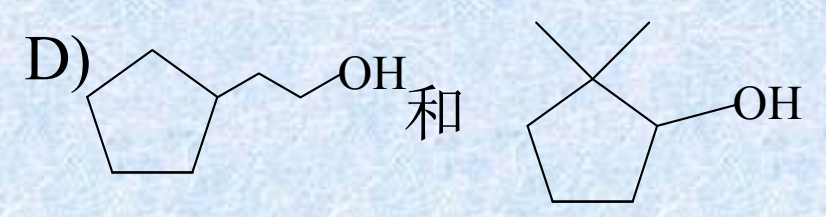
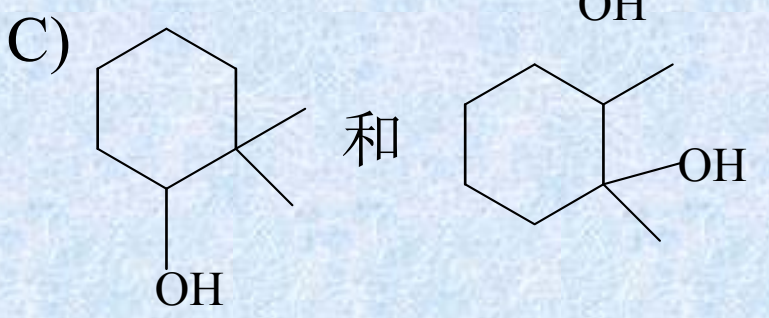
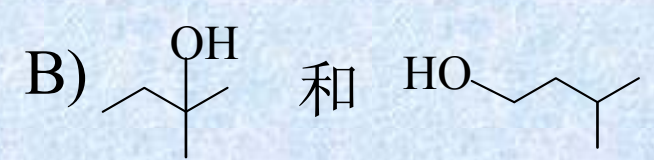
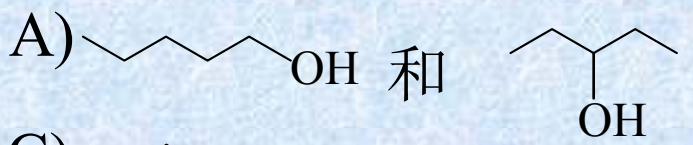
酸性:

$C_6H_5OH > CH_3(CH_2)_2CH_2OH > CH_3CH_2\overset{\overset{CH_3}{|}}{CHOH} > (CH_3)_3COH$

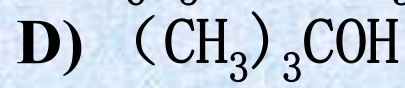
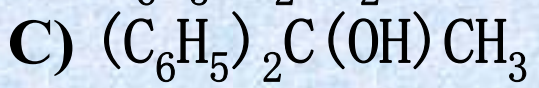
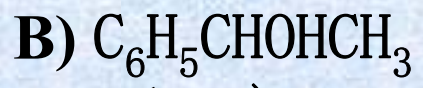
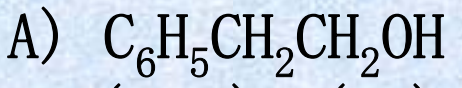
10. 下列各邻二醇, 不被 $HIO_4$ 氧化的是: ( D )



11. 下面四组醇, 哪一组用酸处理后, 2个化合物成为相同的C<sup>+</sup> ( C )

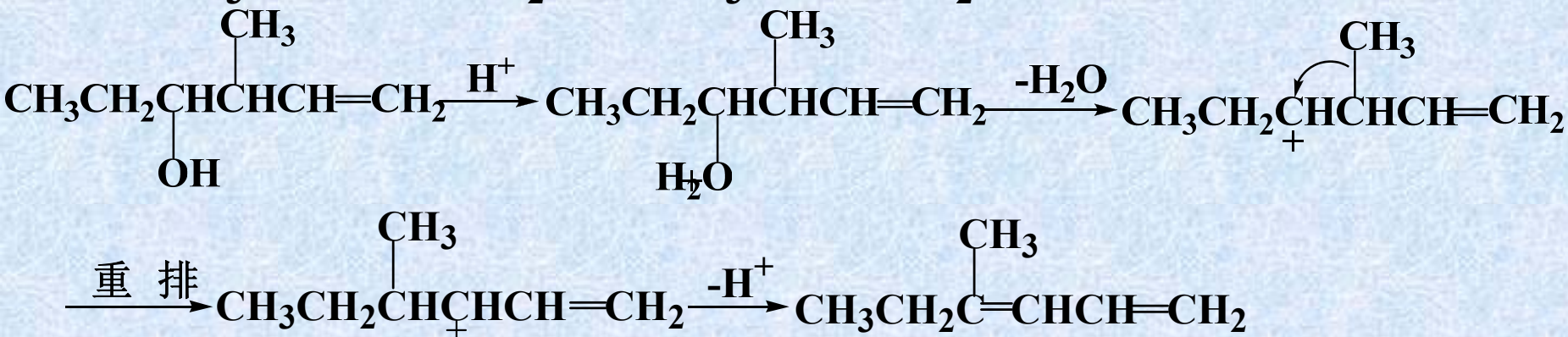
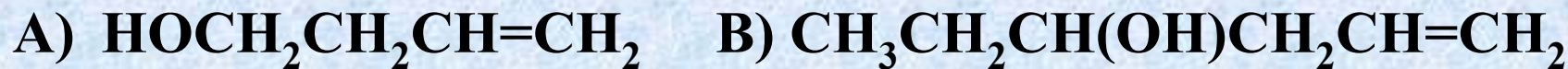


12. 下面4个醇, 最易脱水的是: ( C )

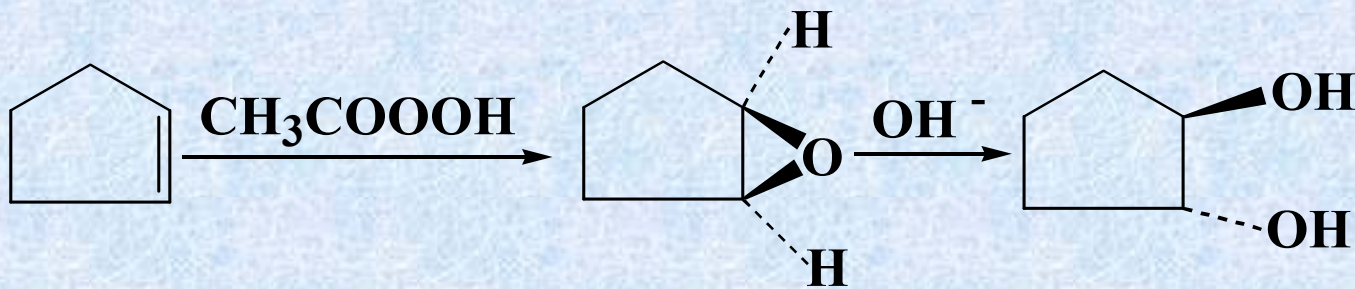
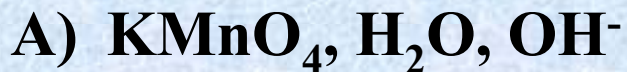




13. 下列4个化合物, 最易在酸催化下进行消除反应的是: ( C )



14. 由环戊烯转化为反-1,2-环戊二醇应采用的方法是: ( D )

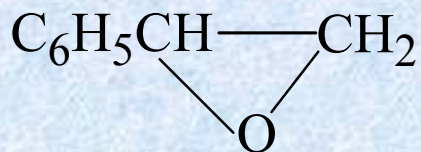


15. 用Williamson合成法合成 $\text{CH}_3\text{CH}_2\text{OC}(\text{CH}_3)_3$ , 下列方法中最合适的是: ( A )

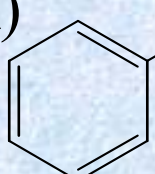
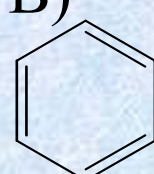
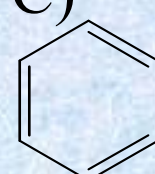
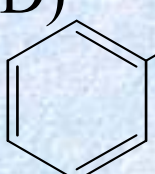
- A)  $\text{CH}_3\text{CH}_2\text{Br} + \text{NaOC}(\text{CH}_3)_3$       B)  $\text{CH}_3\text{CH}_2\text{ONa} + \text{BrC}(\text{CH}_3)_3$   
C)  $\text{CH}_3\text{CH}_2\text{Br} + \text{NaOCH}_2\text{CH}(\text{CH}_3)_2$       D)  $\text{CH}_3\text{CH}_2\text{ONa} + \text{BrCH}_2\text{CH}(\text{CH}_3)_2$

16. 氧化苯乙烯与 $\text{CH}_3\text{OH}$  和少量 $\text{CH}_3\text{ONa}$  反应的主要产物是( B )

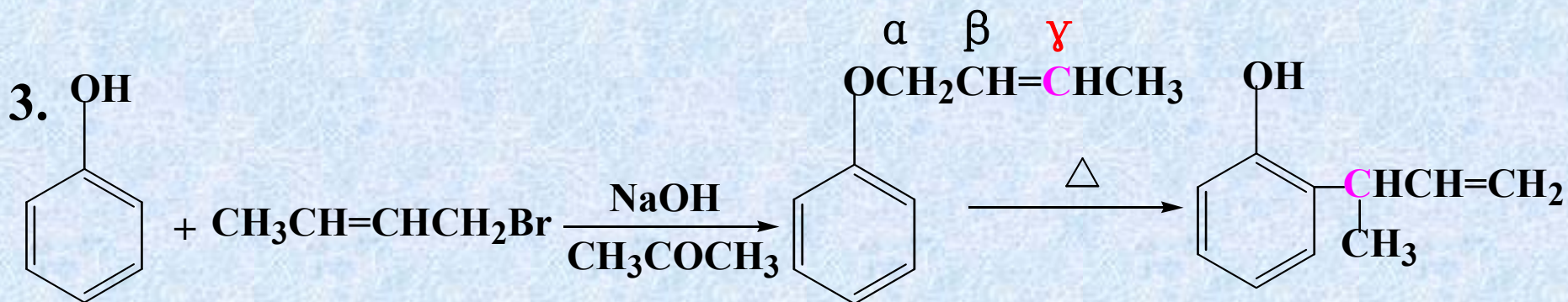
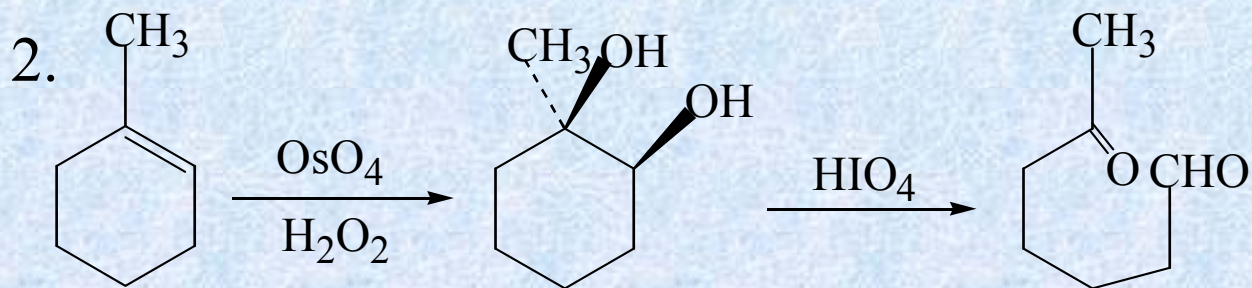
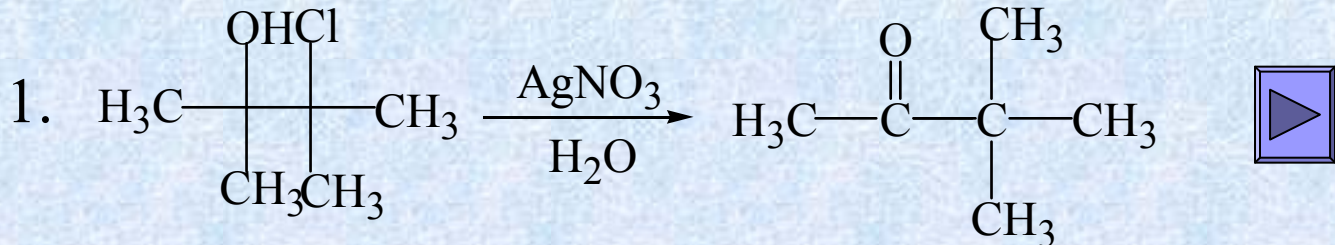
- A)  $\text{C}_6\text{H}_5\underset{\text{OCH}_3}{\text{CH}}\text{CH}_2\text{OH}$       B)  $\text{C}_6\text{H}_5\underset{\text{OH}}{\text{CH}}\text{CH}_2\text{OCH}_3$       C)  $\text{C}_6\text{H}_5\underset{\text{OH}}{\text{CH}}\text{CH}_2\text{OH}$       D)  $\text{C}_6\text{H}_5\underset{\text{OCH}_3}{\text{CH}}\text{CH}_2\text{OCH}_3$

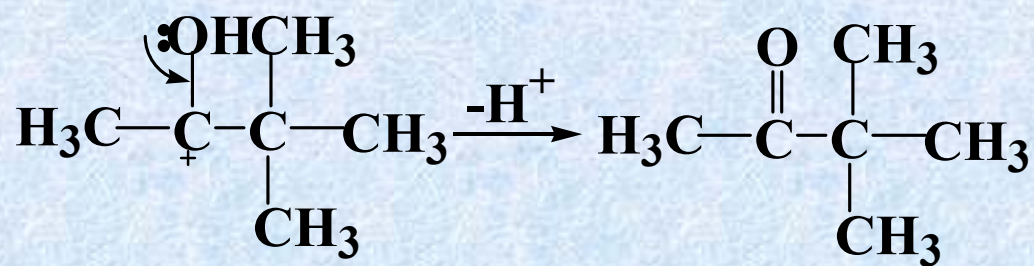
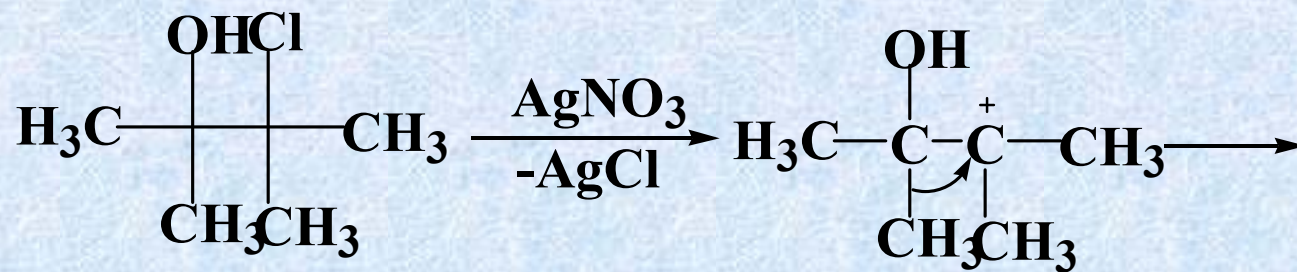


17.  $\text{PhOCH}_3$  由 $\text{HI}$ 裂解的产物是: ( D )

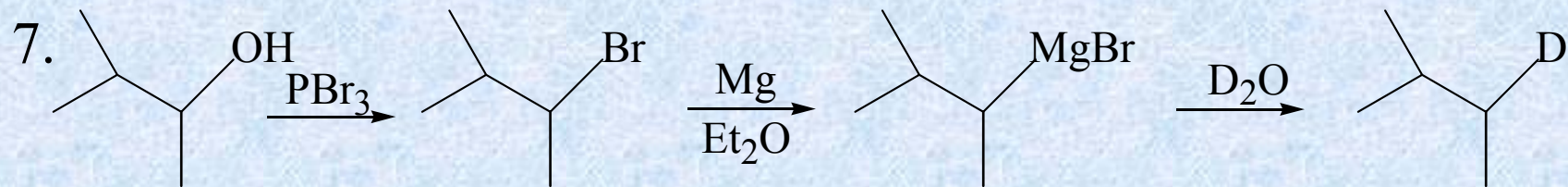
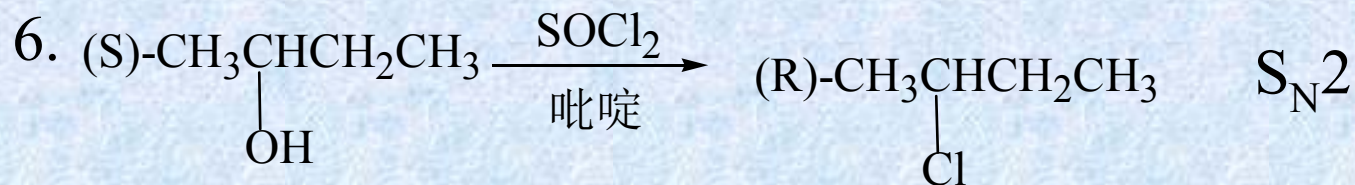
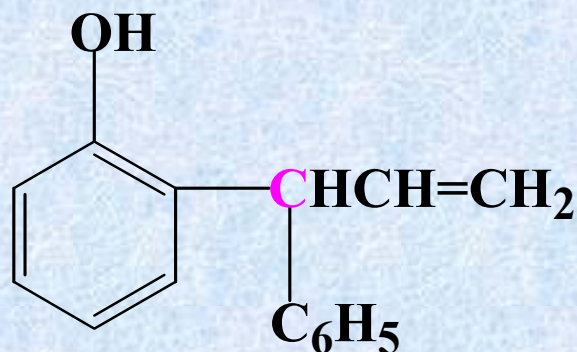
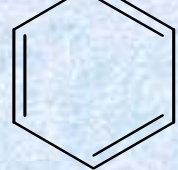
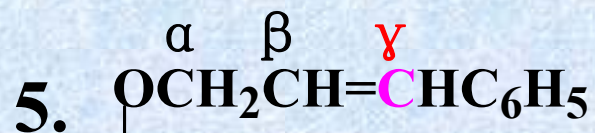
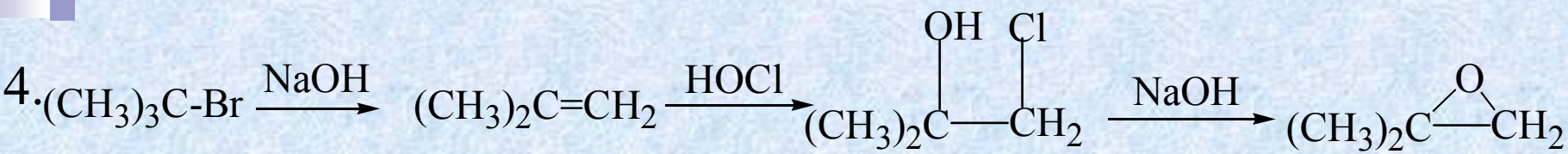
- A)  +  $\text{CH}_3\text{I}$       B)  +  $\text{CH}_3\text{OH}$       C)  +  $\text{CH}_3\text{OH}$       D)  +  $\text{CH}_3\text{I}$

二、写出下列反应的主要有机产物或所需之原料、试剂(如有立体化学问题, 请注明):

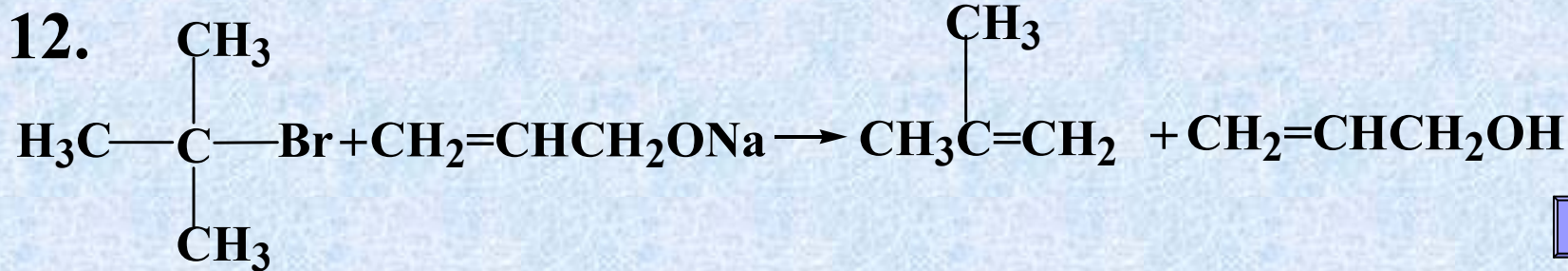
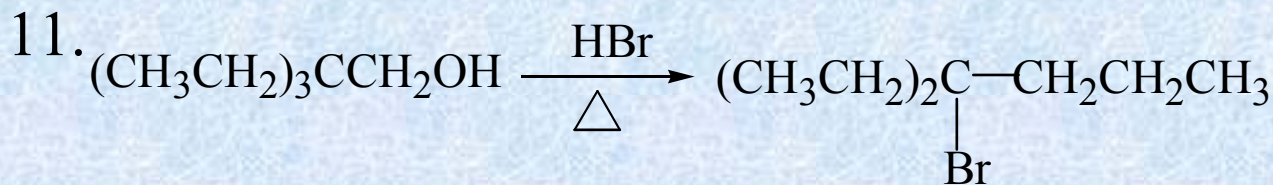
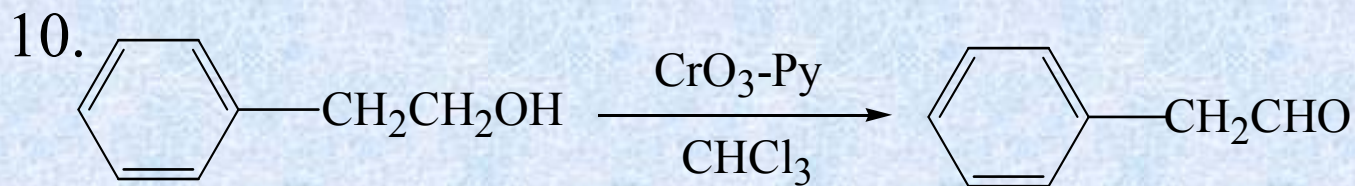
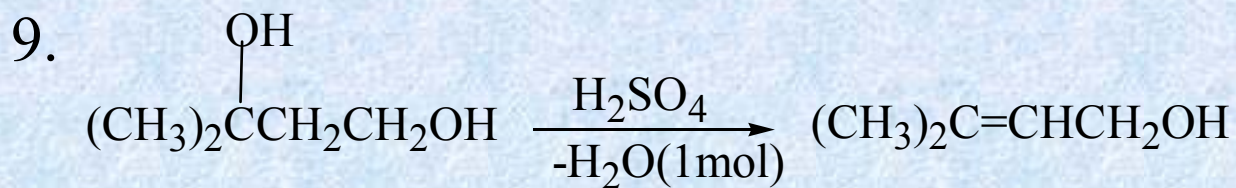
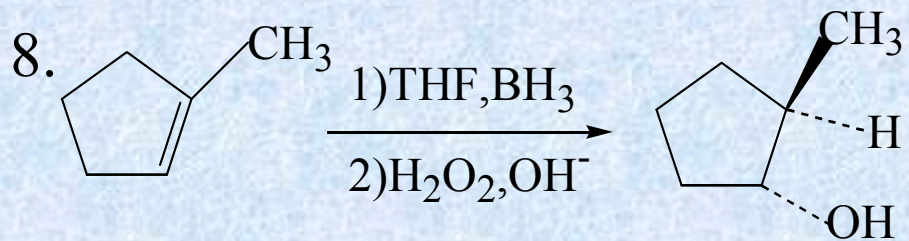


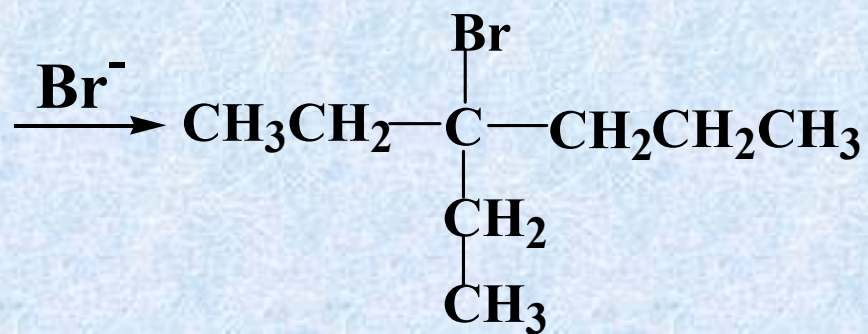
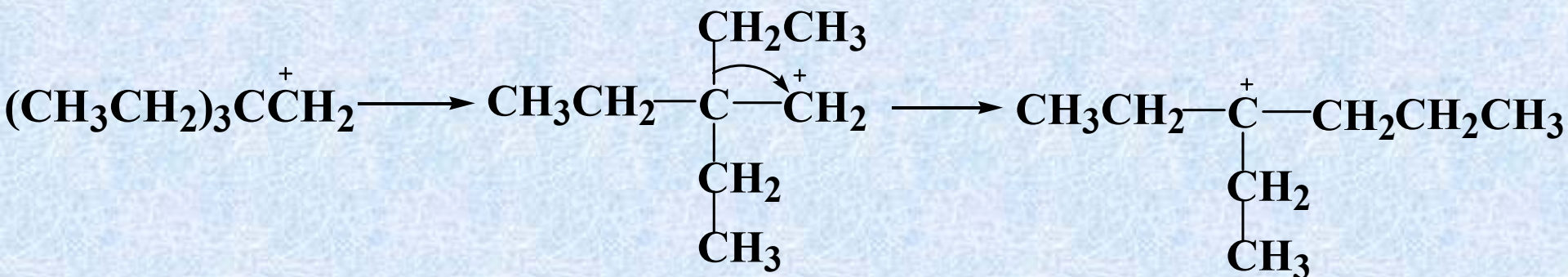
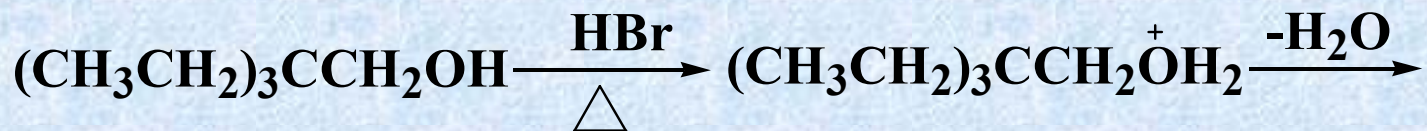


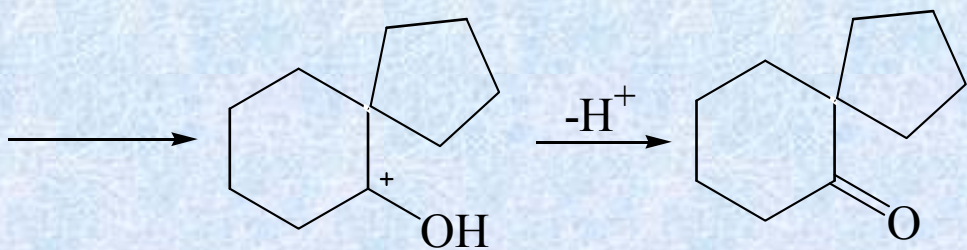
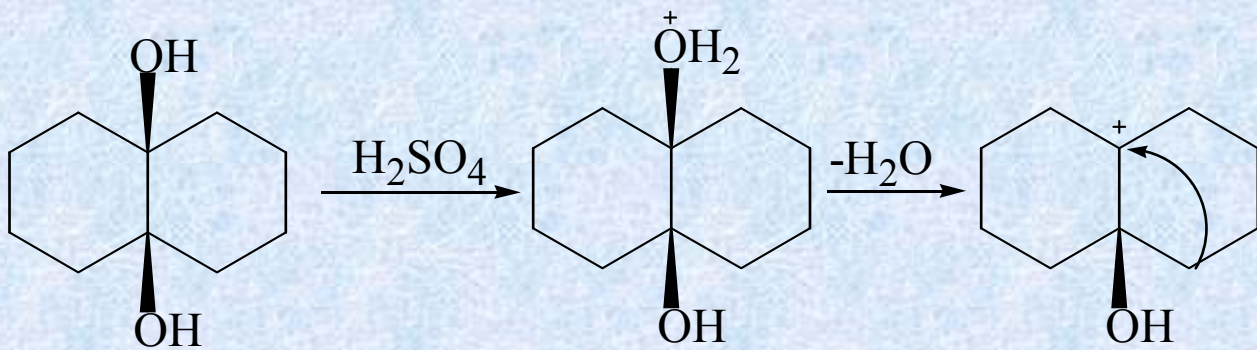
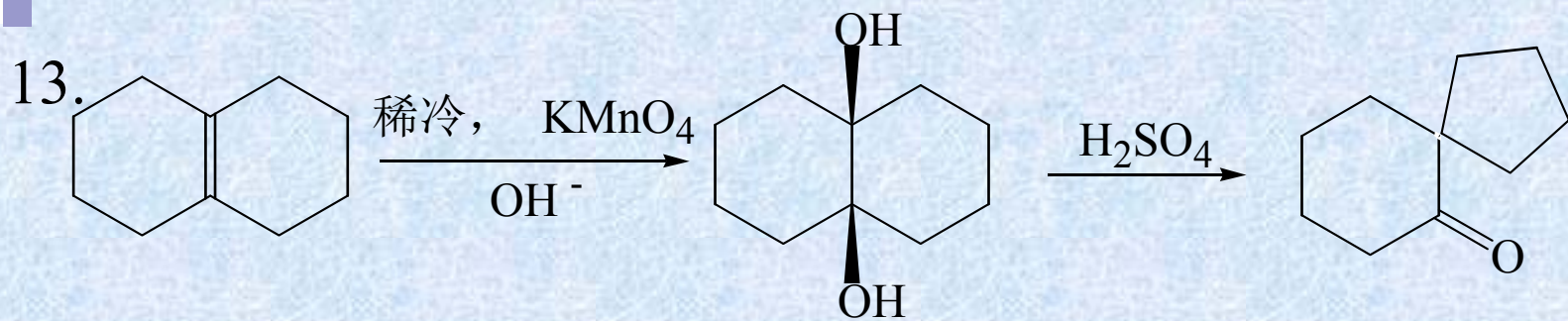


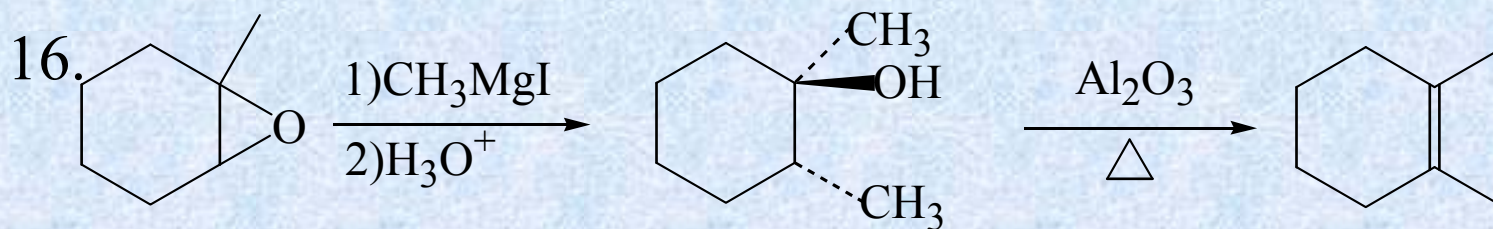
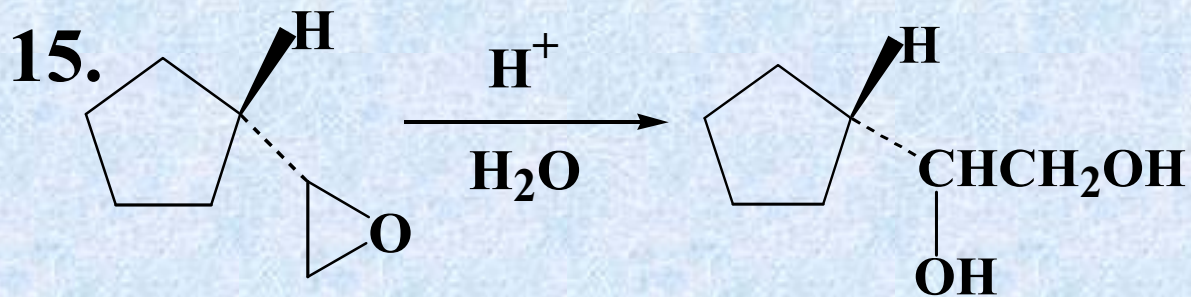
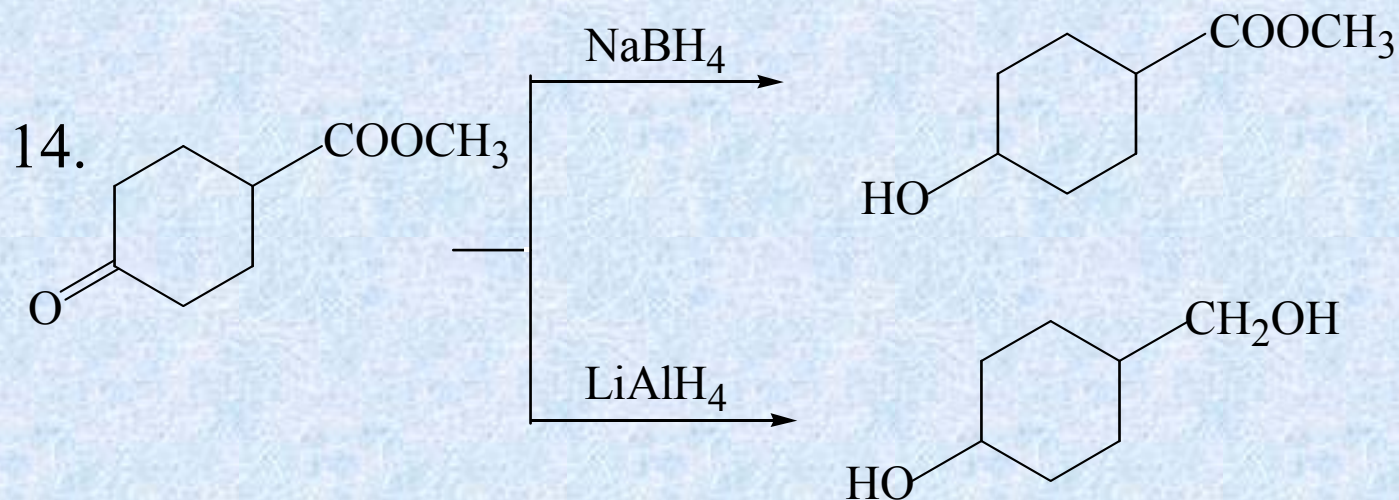


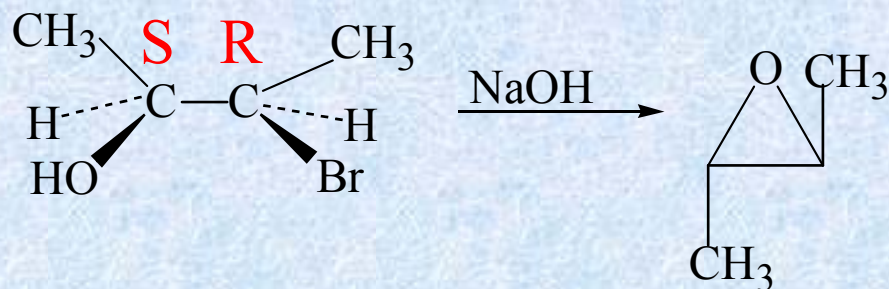
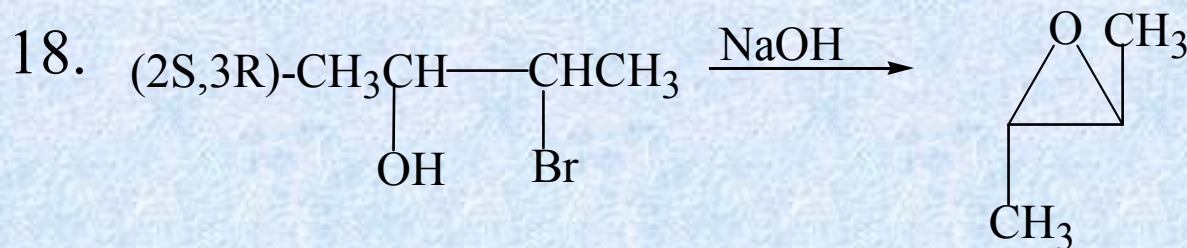
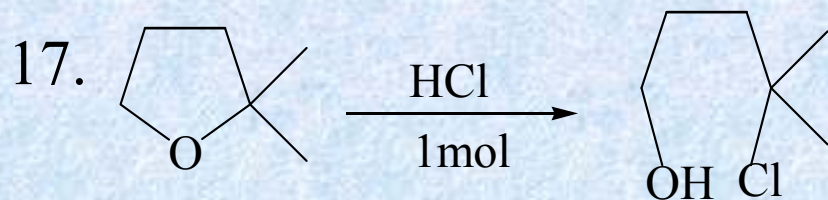








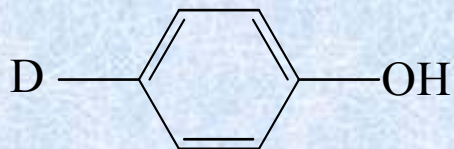
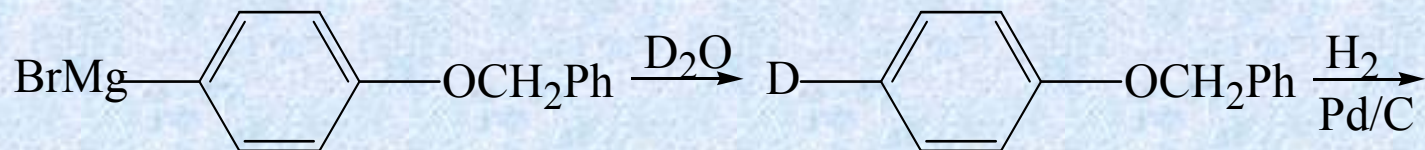
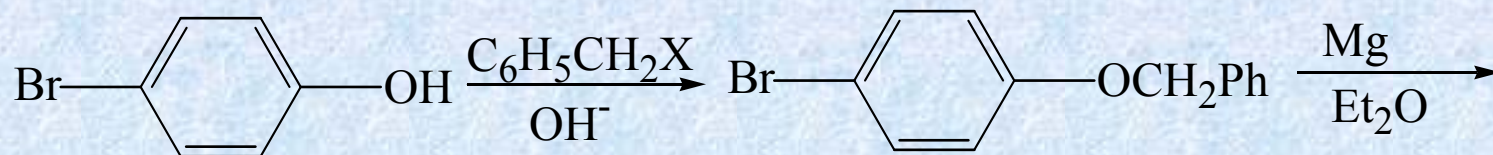
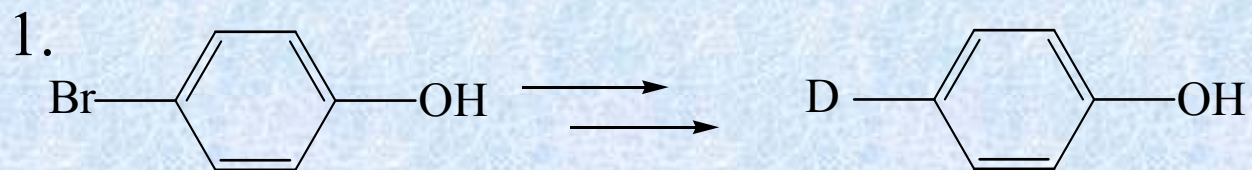




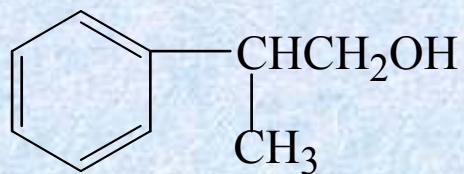
分子内的 $S_N2$  反应



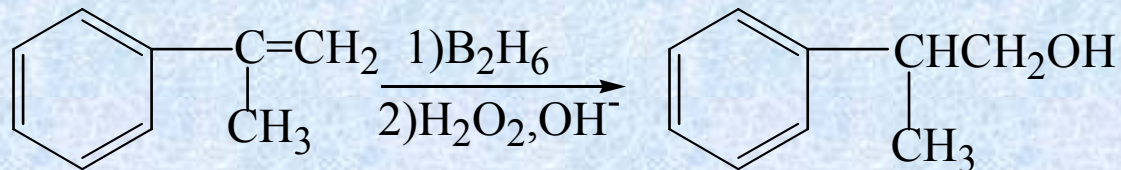
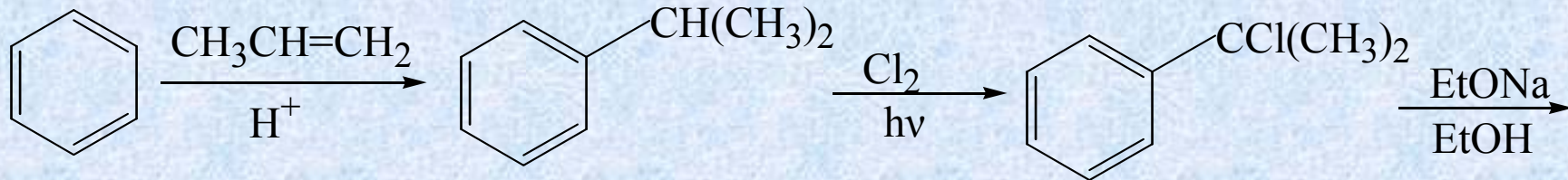
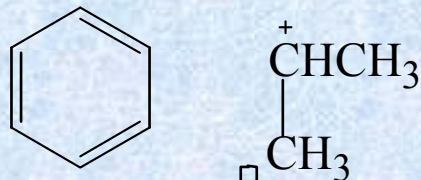
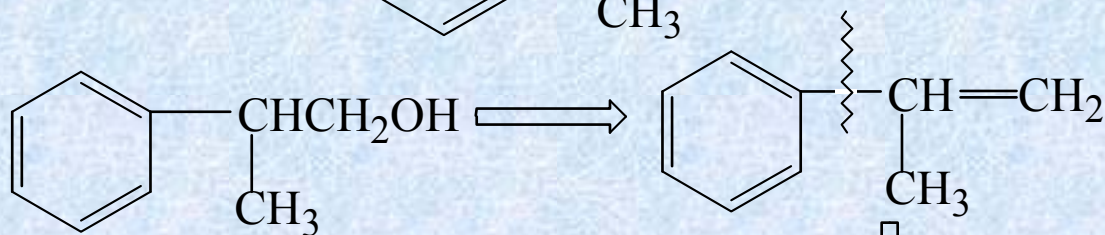
### 三.合成:



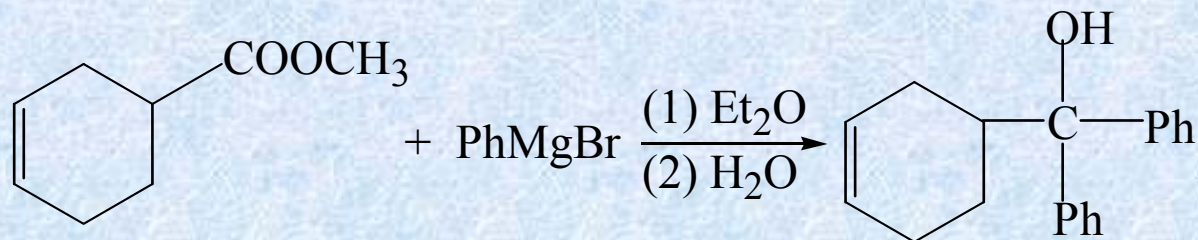
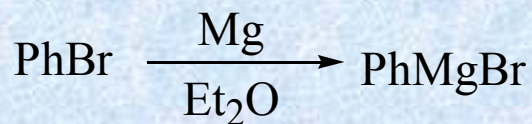
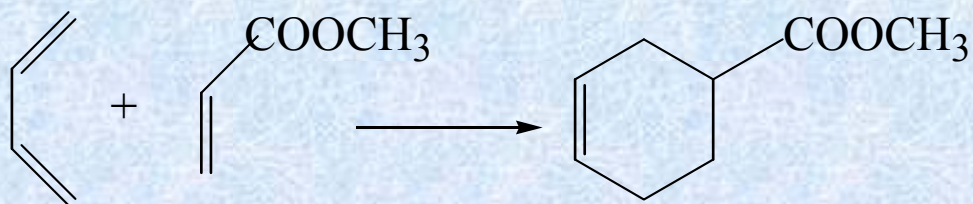
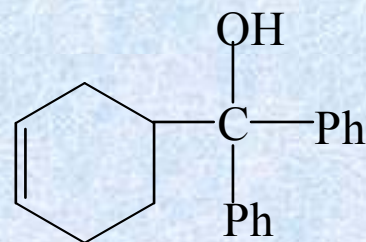
2. 由苯和3C以下原料合成:



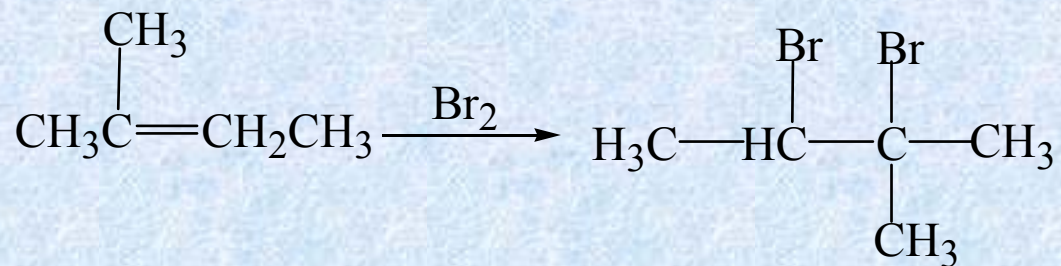
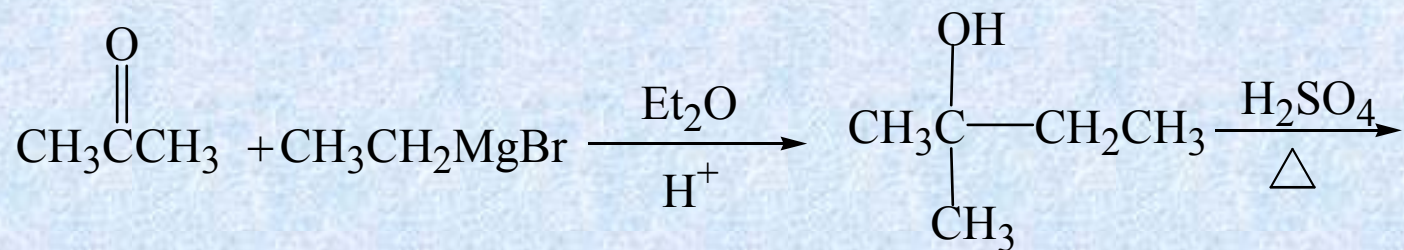
合成子分析:



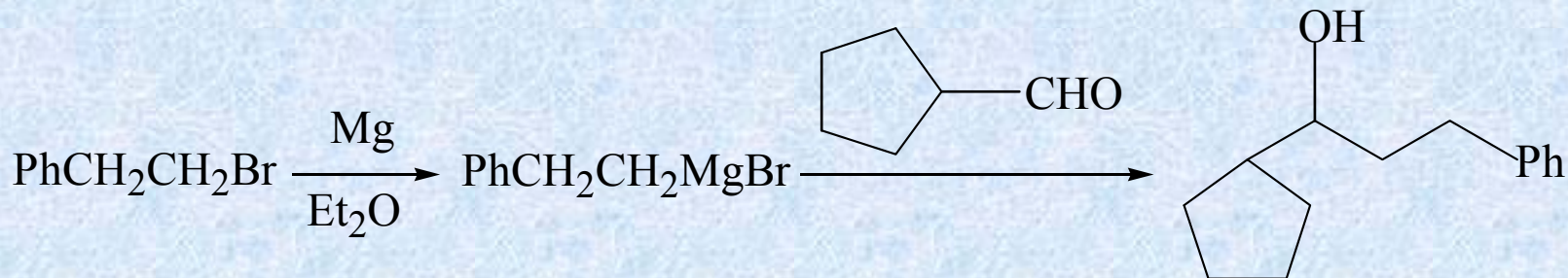
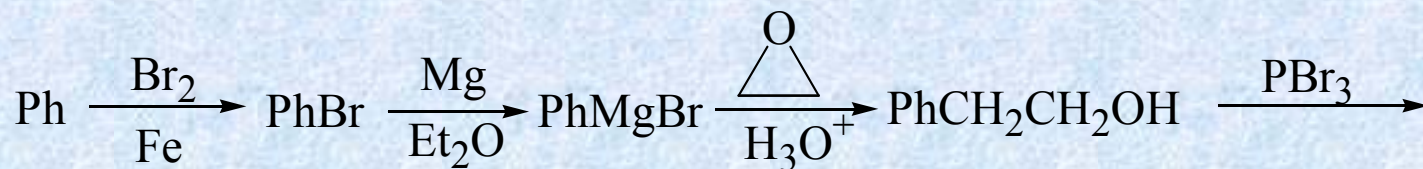
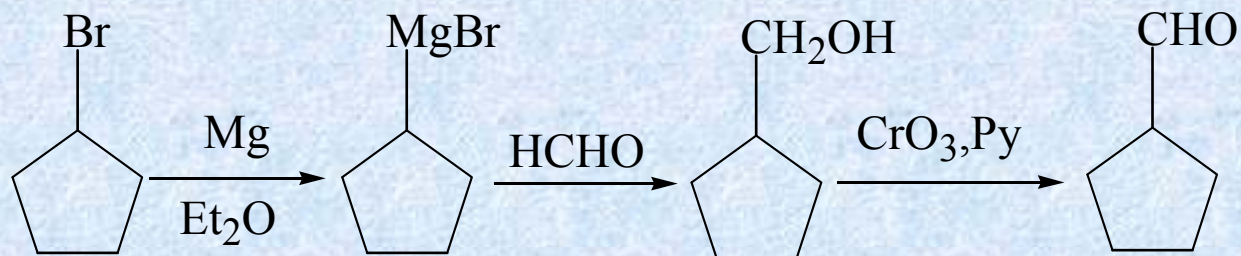
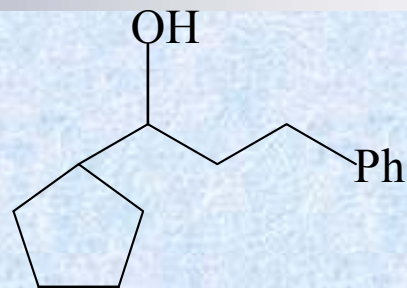
3. 由  $C_6H_5Br$  及 4C 以下原料合成:



4. 由丙酮和2C原料合成:  $\text{H}_3\text{C}-\overset{\text{Br}}{\underset{\text{Br}}{\text{C}}}-\overset{\text{Br}}{\underset{\text{CH}_3}{\text{C}}}-\text{CH}_3$

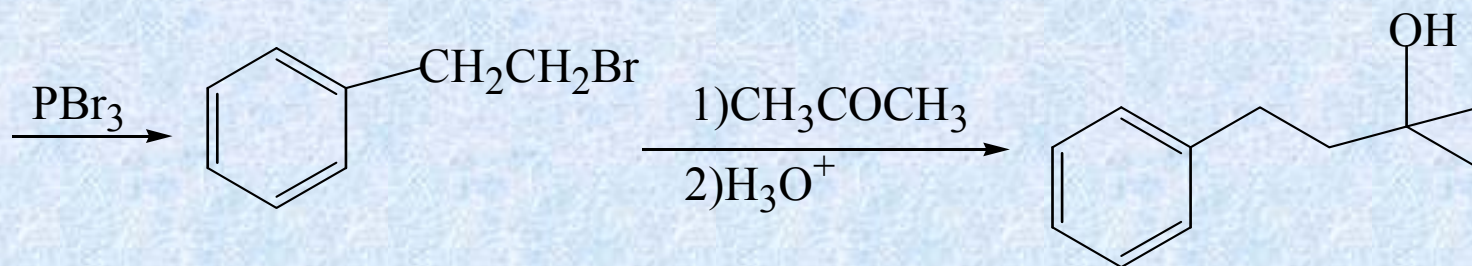
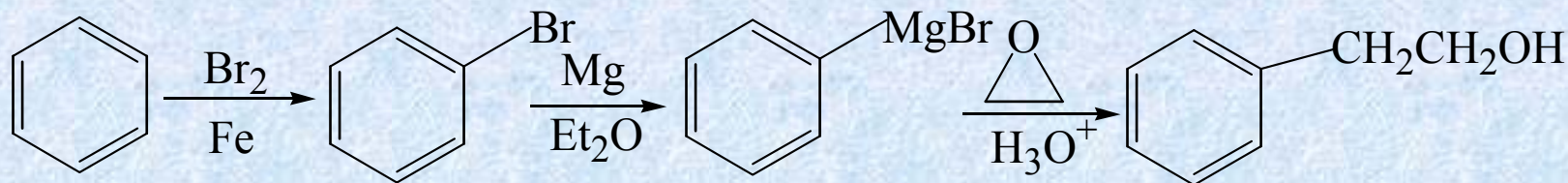
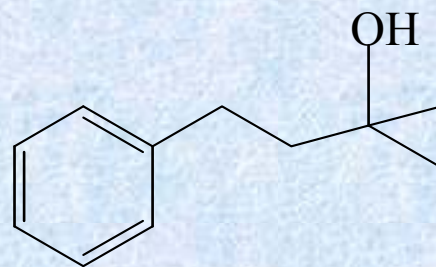


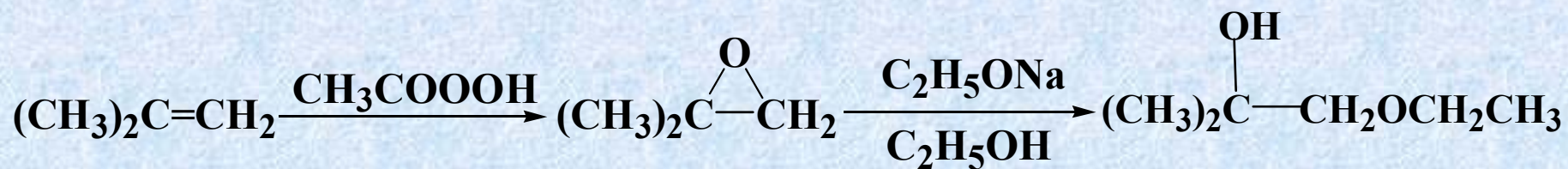
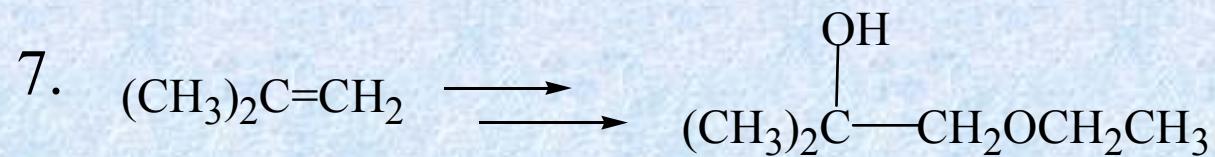
## 5. 由苯及5C以下有机原料合成





6. 从苯, 环氧乙烷和丙酮合成:

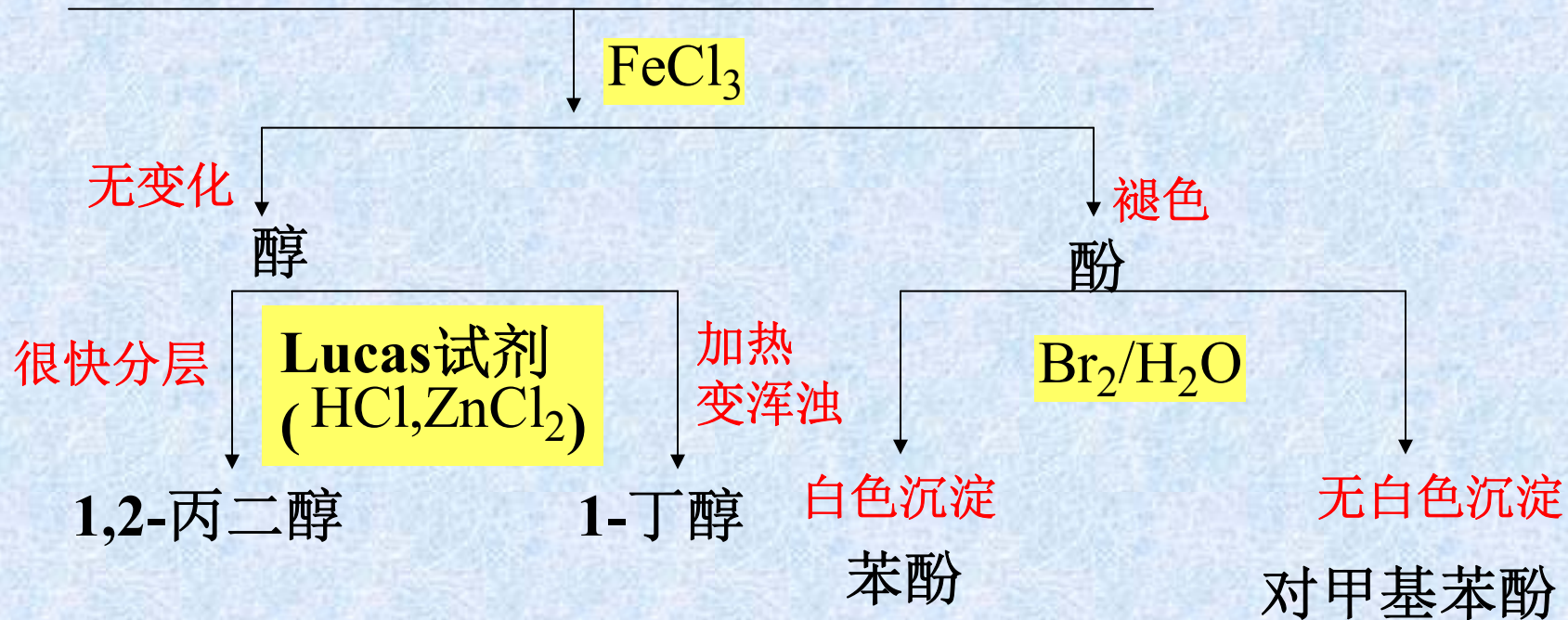




#### 四.用简单的化学方法区别下列4个化合物:

1,2-丙二醇、1-丁醇、苯酚、对甲基苯酚

1,2-丙二醇、1-丁醇、苯酚、对甲基苯酚



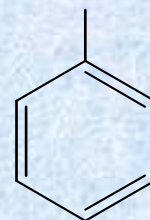
## 五、推理题:

1.  $C_{10}H_{14}O$ ,  $\nu_{\max} : 3350, 1600, 490, 710, 690\text{cm}^{-1}$ ,  $\delta_{\text{H}} : 1.1(\text{s}, 6\text{H}), 1.4(\text{s}, 1\text{H}), 2.7(\text{s}, 2\text{H}), 7.2(\text{s}, 5\text{H})\text{ppm}$ , 推测该化合物的结构。

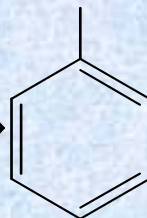
分析:  $C_{10}H_{14}O \Rightarrow$  不饱和度 = 4

IR:  $\nu_{\max} : 3350\text{cm}^{-1} \Rightarrow -\text{OH}$

$1600, 1490, 710, 690\text{cm}^{-1} \Rightarrow$



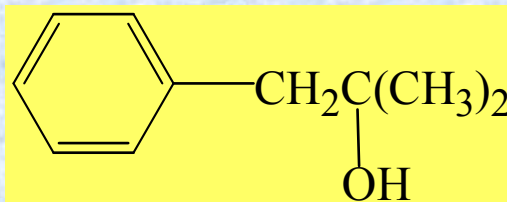
NMR:  $\delta_{\text{H}} : 7.2(\text{s}, 5\text{H})\text{ppm} \Rightarrow$



$2.7(\text{s}, 2\text{H}) \Rightarrow \text{CH}_2$

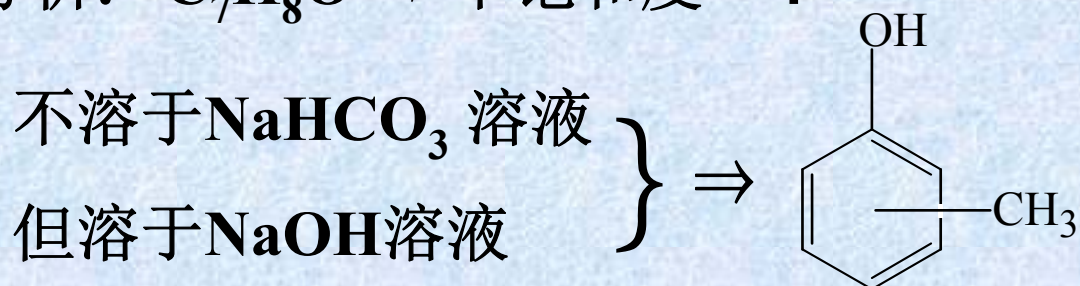
$1.1(\text{s}, 6\text{H}) \Rightarrow 2\text{CH}_3$

$\therefore$  此化合物为



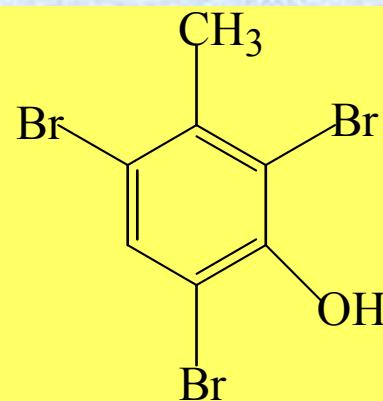
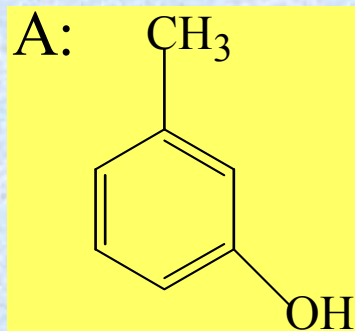
2. 某化合物A, 分子式为 $C_7H_8O$ , 不溶于 $NaHCO_3$  溶液, 但溶于 $NaOH$ 溶液, 当用溴水处理时, 迅速得到沉淀B, 分子式为 $C_7H_5OBr_3$ , 推出A, B的结构。

分析:  $C_7H_8O \Rightarrow$  不饱和度 = 4



A用溴水处理 $\rightarrow$ 沉淀B(分子式为 $C_7H_5OBr_3$ )  $\Rightarrow$  B:

$\therefore$





六. 写出下列反应的机理:

