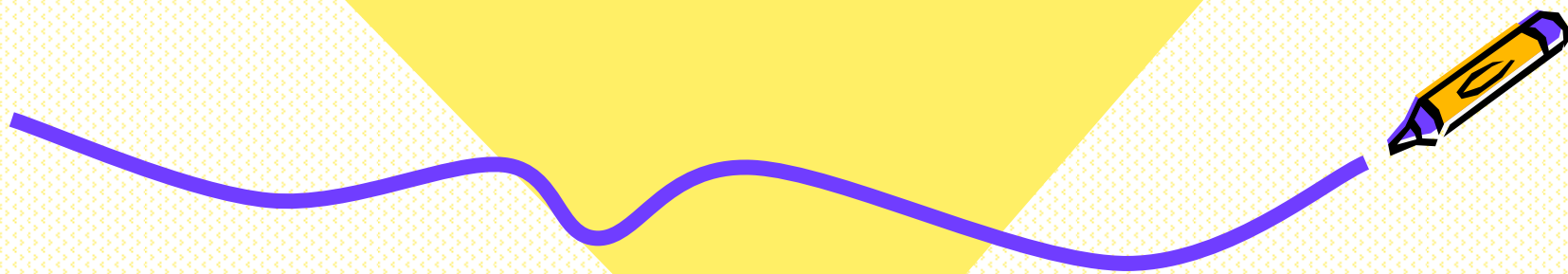


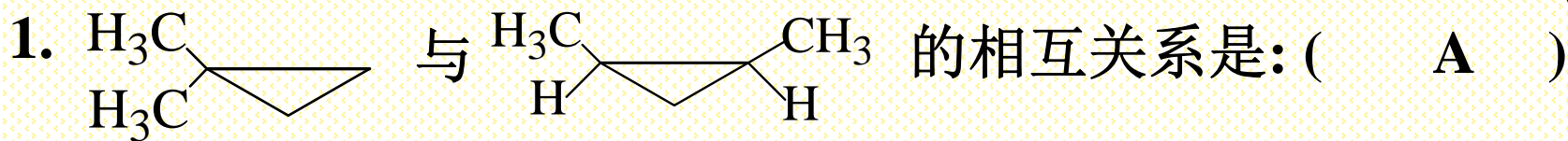


# 同步训练 二

## 环烷烃



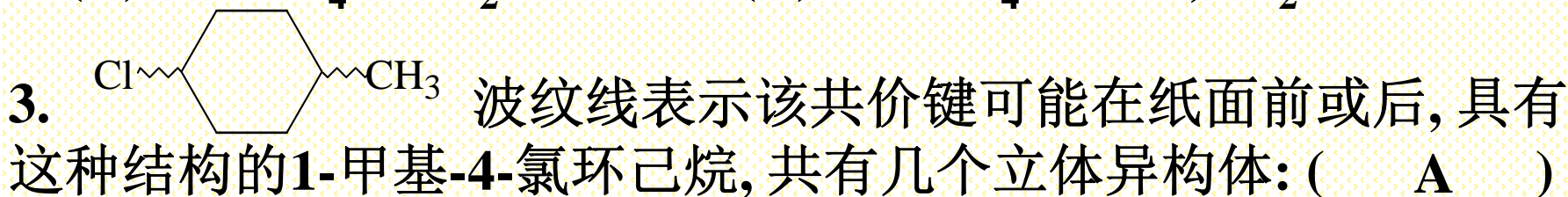
# 一、选择题:



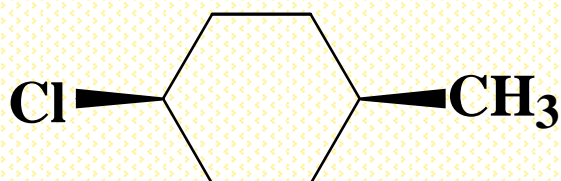
(A) 构造异构体 (B) 构型异构体 (C) 构象异构体 (D) 顺反异构体



(A)  $\text{KMnO}_4$  和  $\text{Br}_2$  都褪色 (B)  $\text{KMnO}_4$  褪色,  $\text{Br}_2$  不褪色  
(C)  $\text{KMnO}_4$  和  $\text{Br}_2$  都不褪色 (D)  $\text{KMnO}_4$  不褪色,  $\text{Br}_2$  褪色



(A) 2个 (B) 3个 (C) 4个 (D) 5个

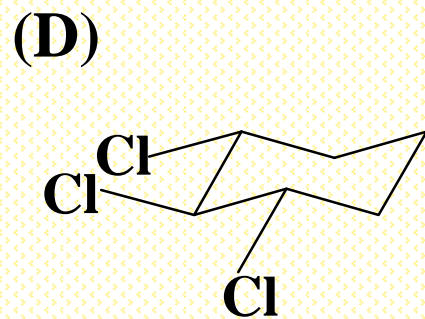
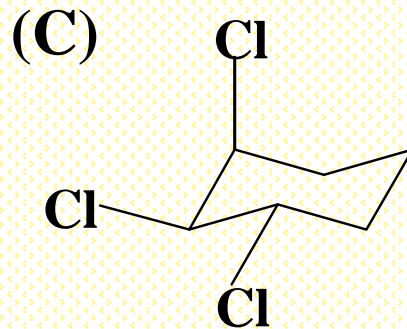
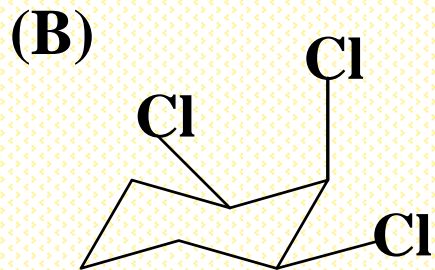
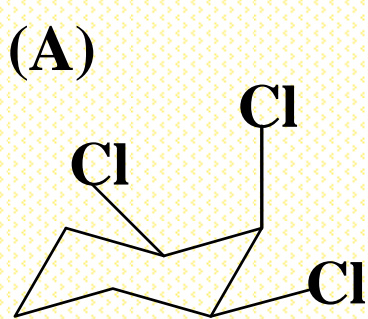
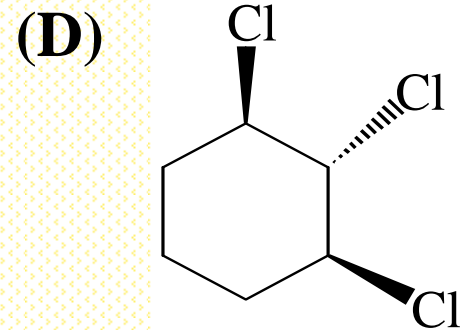
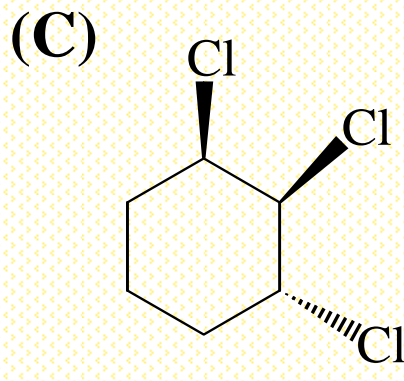
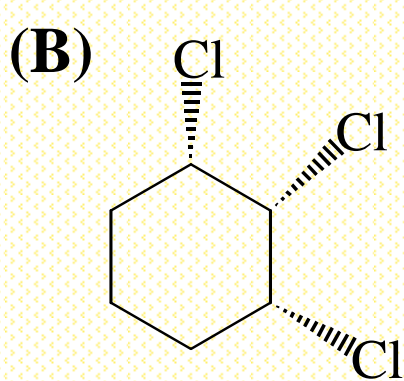
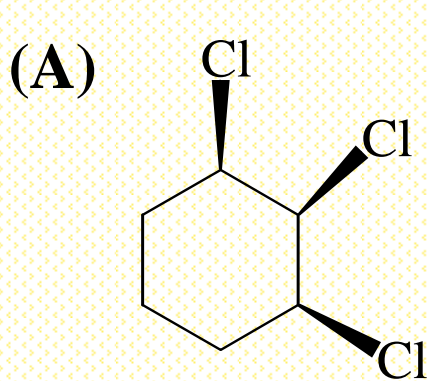


顺-1-甲基-4-氯环己烷



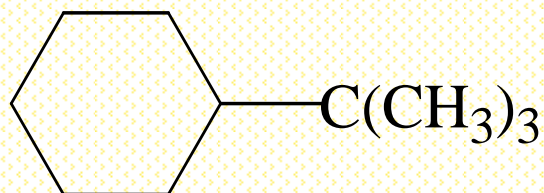
反-1-甲基-4-氯环己烷

4. 1, 2, 3-三氯环己烷的下列四个异构体中, 最稳定的异构体是哪一个? ( D )

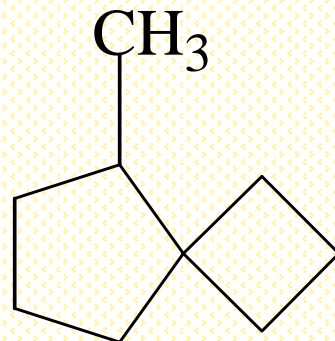


## 二、写出符合下列各名称的结构：

### 1. 叔丁基环己烷



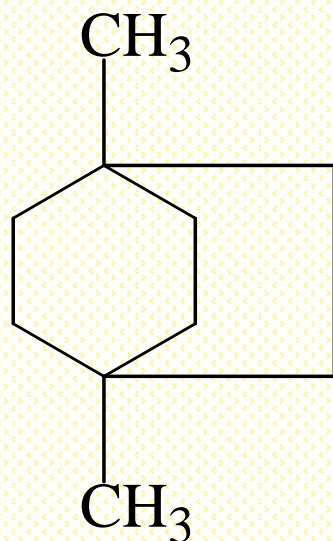
### 2. 5-甲基螺[3.4]辛烷



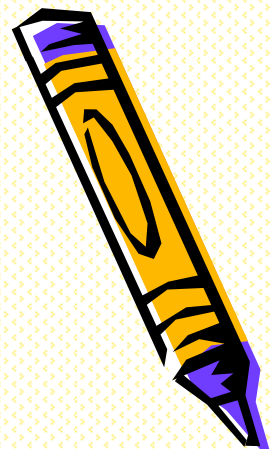
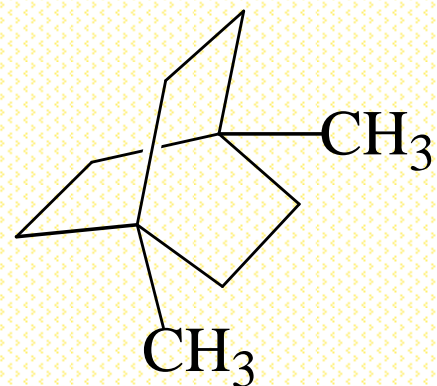
### 3. 1,4-二甲基二环[2.2.2]辛烷



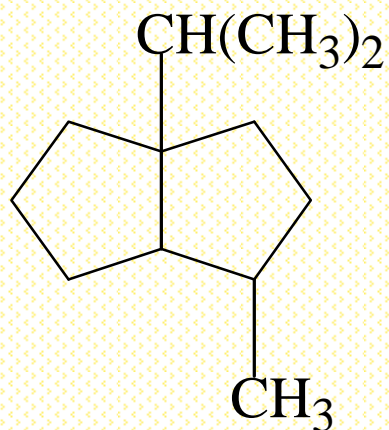
or



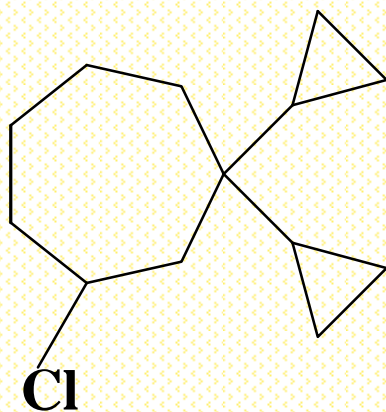
or



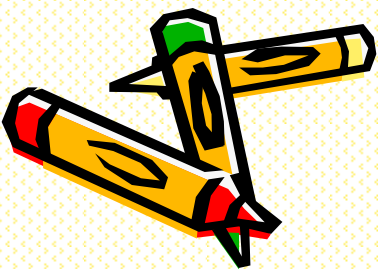
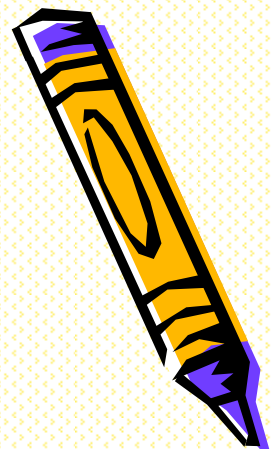
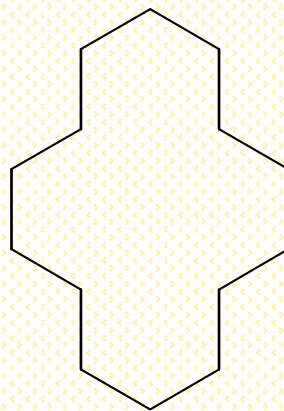
#### 4. 4-甲基-1-异丙基二环[3.3.0]辛烷



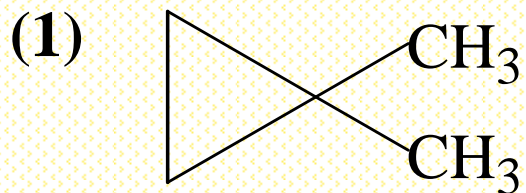
#### 5. 1,1-二环丙基-3-氯环庚烷



#### 6. 环十四烷

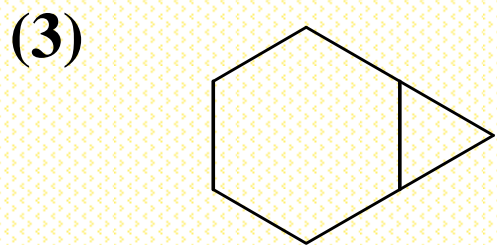


### 三、CCS命名:



1, 1-二甲基环丙烷

**1, 1- Dimethylcyclopropane**



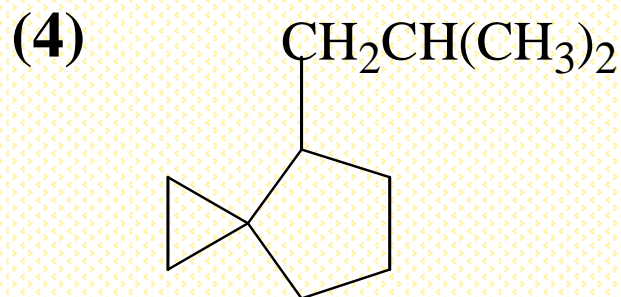
二环[4. 1. 0]庚烷

**Bicyclo[4. 1. 0]heptane**



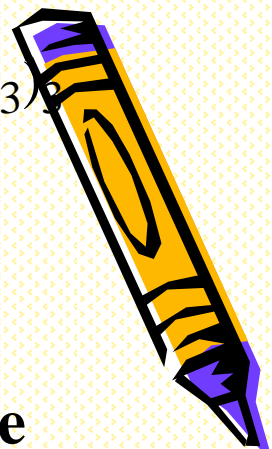
1-叔丁基环癸烷

**1-*tert*-Butylcyclodecane**

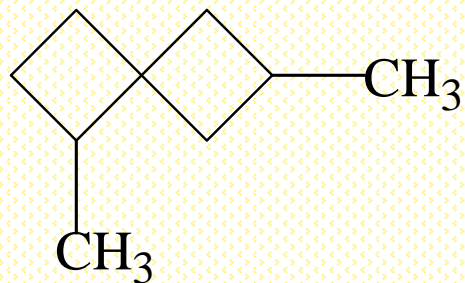


4-异丁基螺[4. 2]庚烷

**4-Isobutylspiro[4.2]heptane**



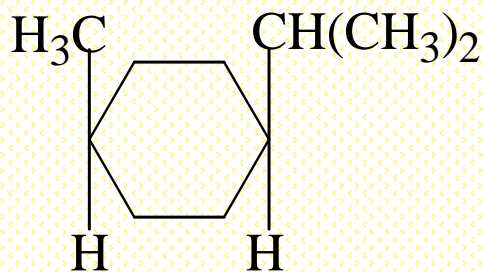
(5)



1, 6-二甲基螺[3. 3]庚烷

1, 6-Dimethylspiro[3. 3] heptane

(6)

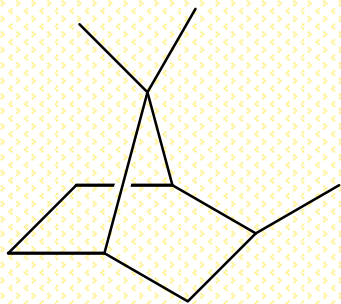


顺-1-甲基-4-异丙基环己烷

*cis*-1-isopropyl-4-methylcyclohexane



(7)



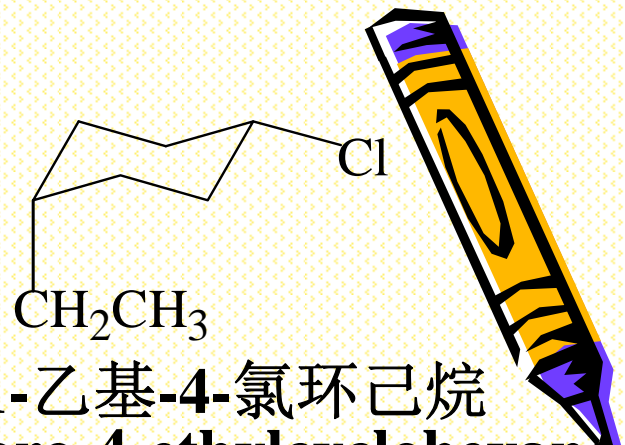
2,7,7-三甲基二环[2.2.1]庚烷

2,7,7-trimethylbicyclo [2.2.1]heptane

四、构象:

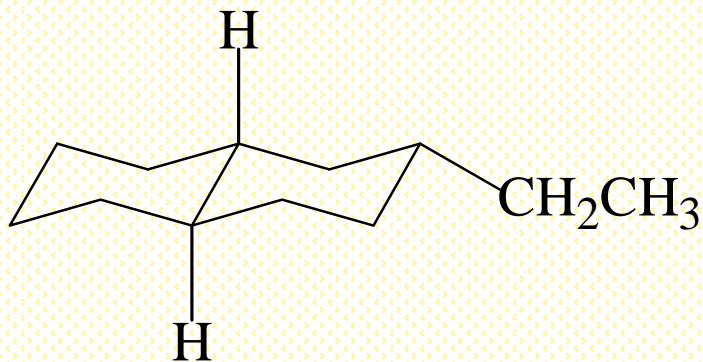
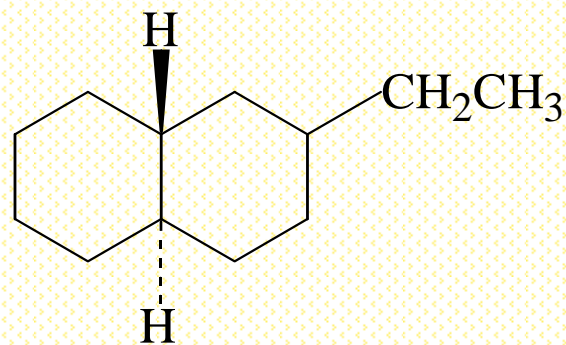
1. 画出右侧化合物的稳定构象式:

(8)



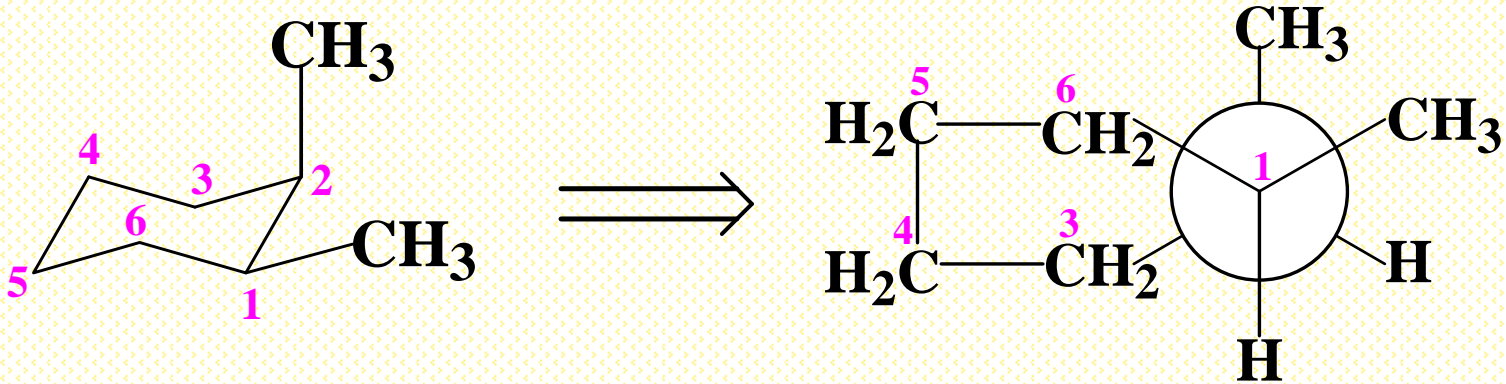
顺-1-乙基-4-氯环己烷

*cis*-1-chloro-4-ethylcyclohexane

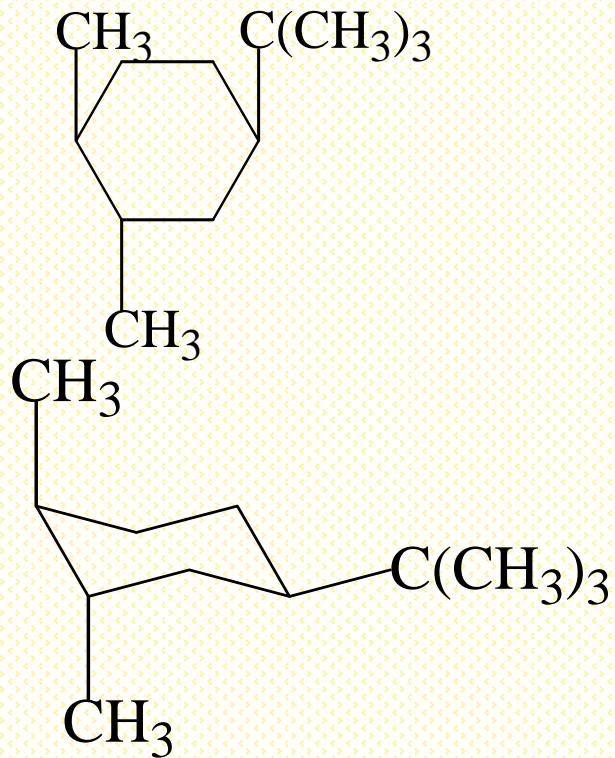
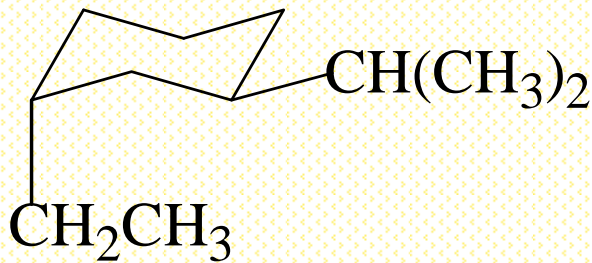
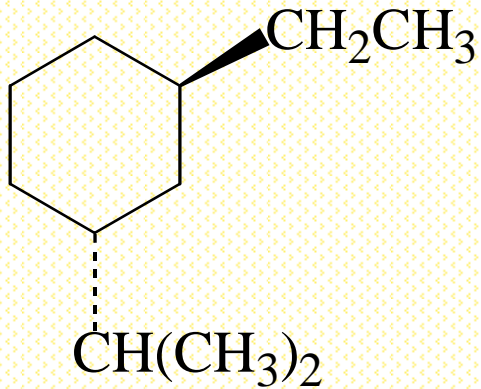




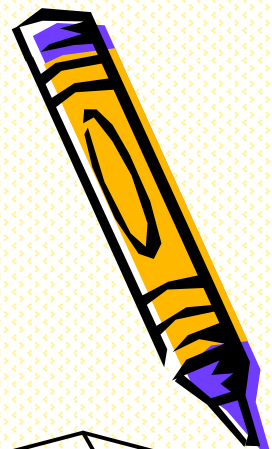
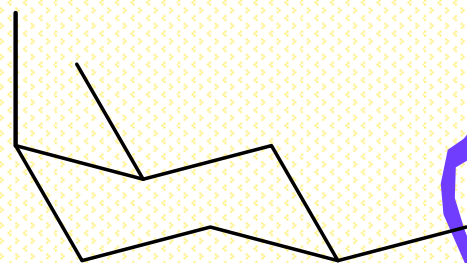
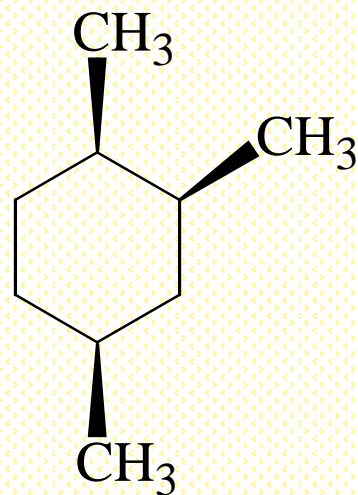
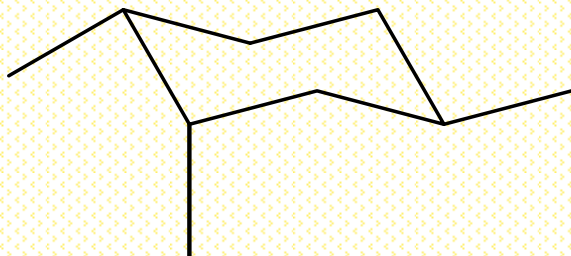
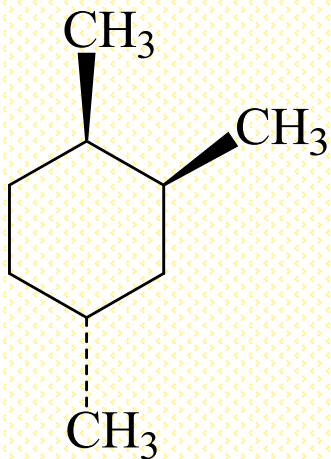
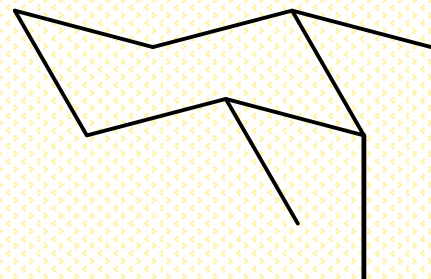
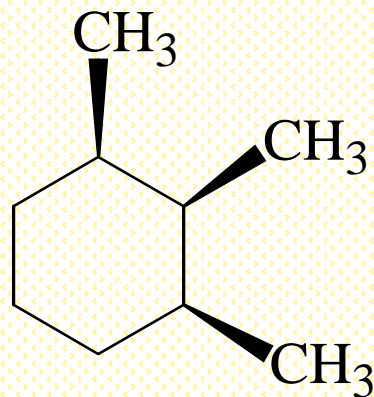
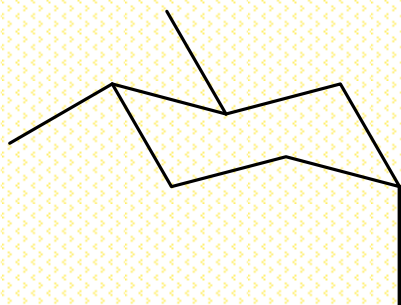
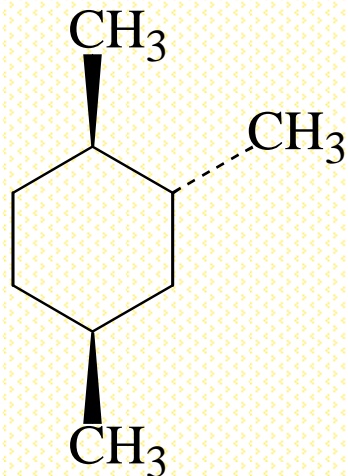
2. 画出顺-1, 2-二甲基环己烷C1-C2键的Newman投影式:



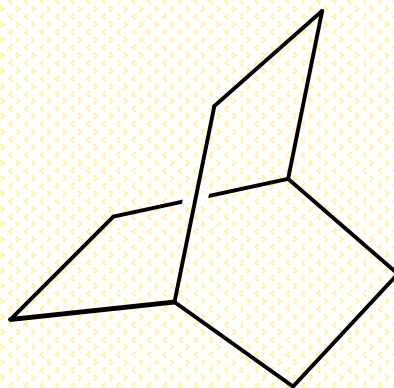
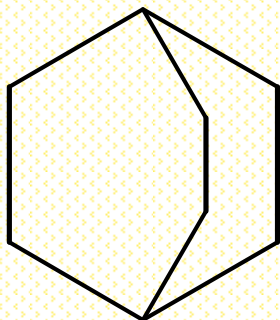
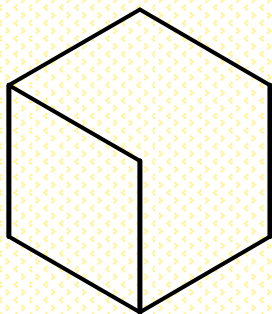
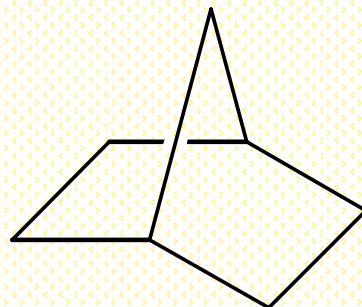
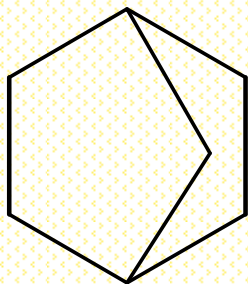
3. 画出右侧两个化合物最稳定的构象式:



4. 画出三甲基环己烷异构体中, 下列4个异构体的最稳定的构象式, 并指出其中哪一个最稳定:

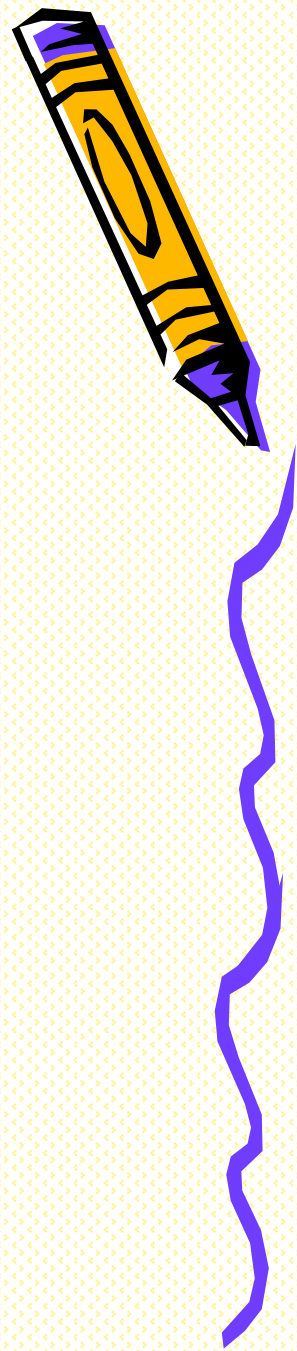
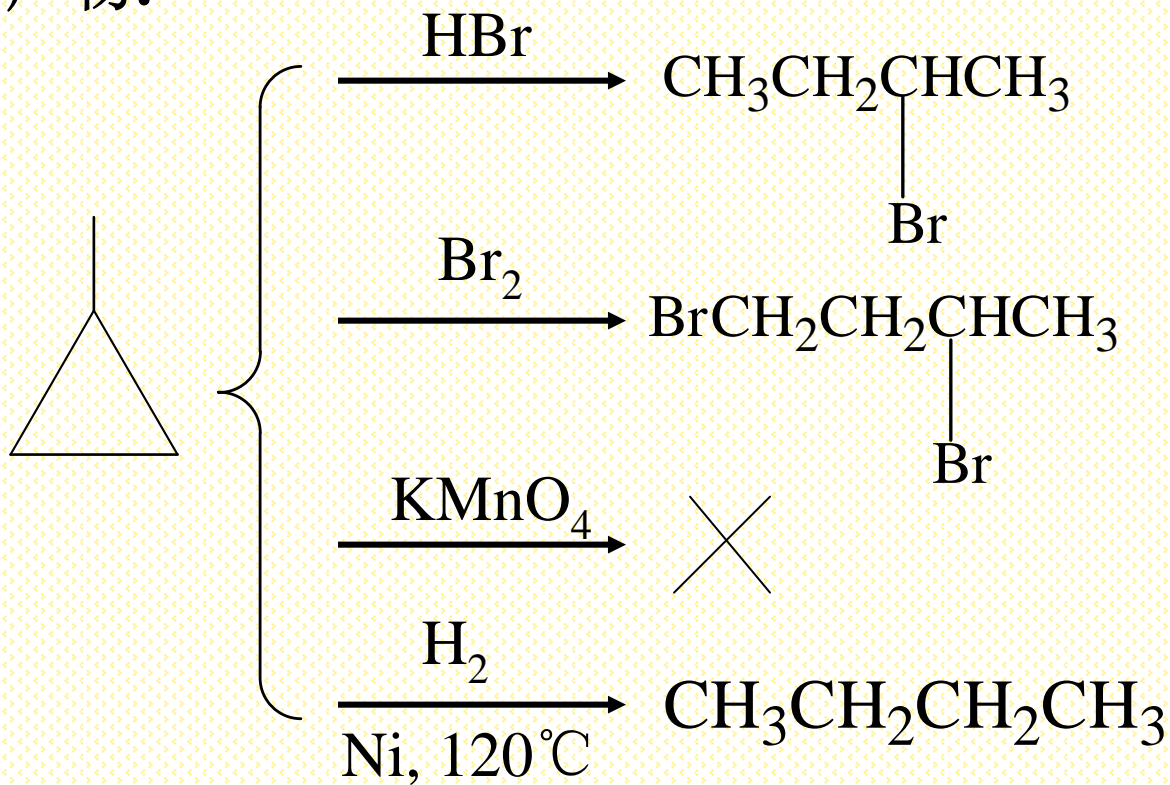


5. 把下列平面构造式改写成构象式:



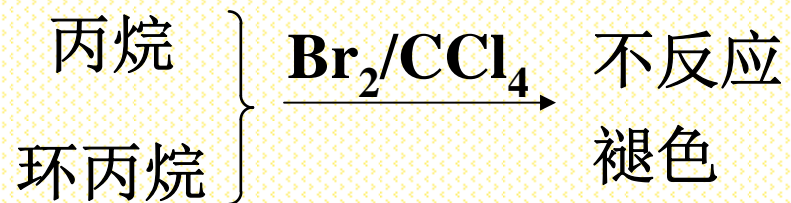
## 五、反应:

1. 判断下列反应能否发生,若能发生,请写出反应的主要产物:



2. 用一个简单的化学方法区别下列两组化合物:

(1) 丙烷与环丙烷



(2) 1, 2-二甲基环丙烷与环戊烷

