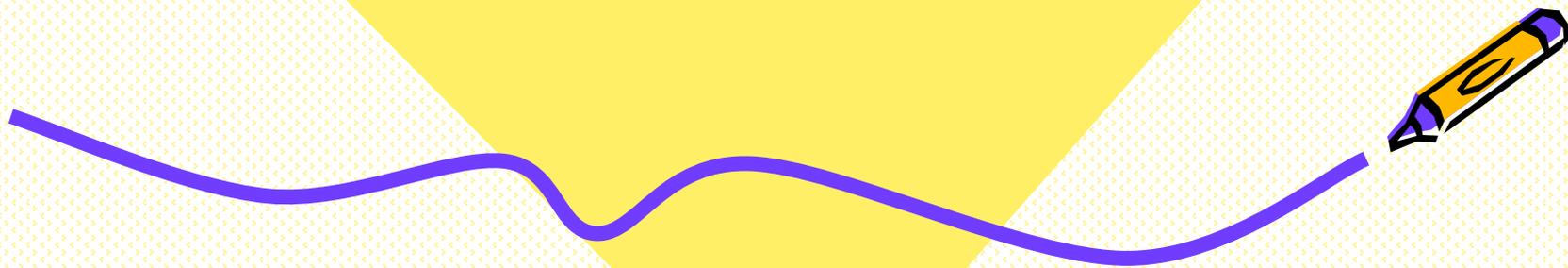


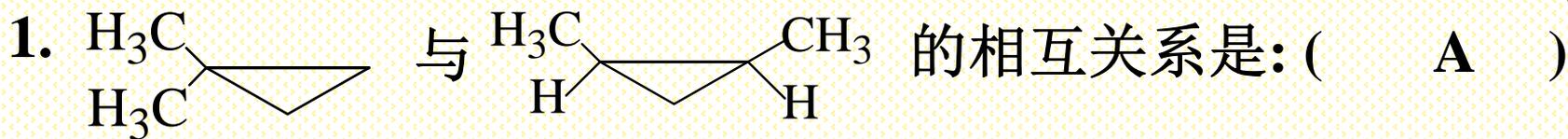


同步训练 二

环烷烃



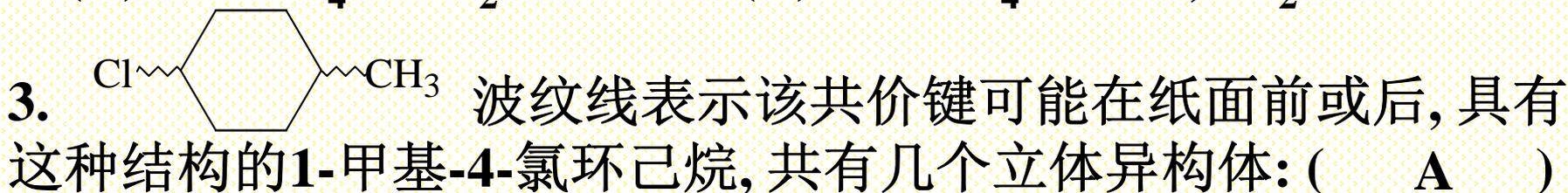
一、选择题:



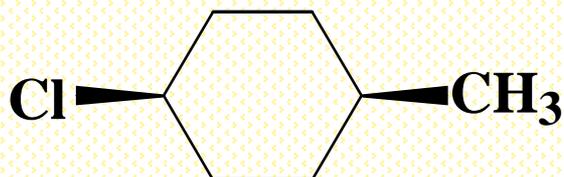
(A) 构造异构体 (B) 构型异构体 (C) 构象异构体 (D) 顺反异构体



(A) KMnO_4 和 Br_2 都褪色 (B) KMnO_4 褪色, Br_2 不褪色
(C) KMnO_4 和 Br_2 都不褪色 (D) KMnO_4 不褪色, Br_2 褪色



(A) 2个 (B) 3个 (C) 4个 (D) 5个

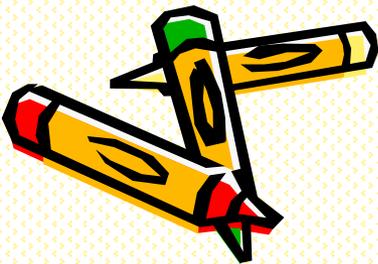
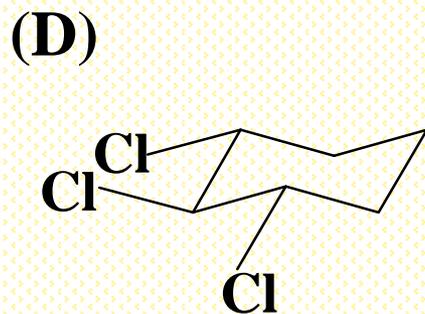
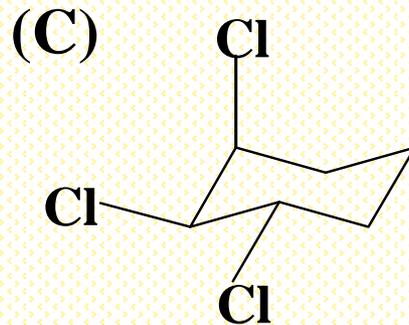
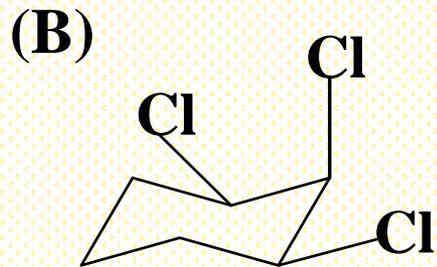
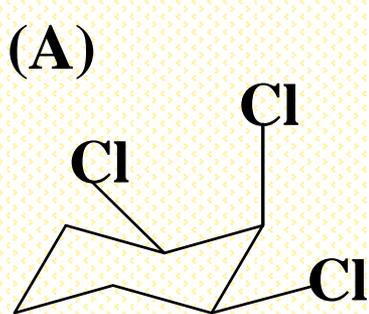
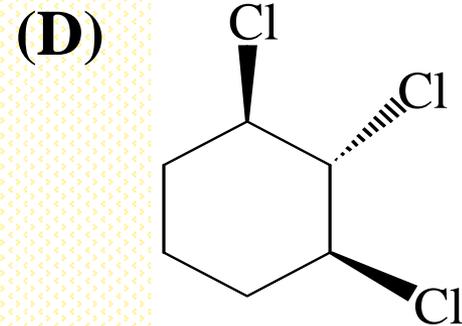
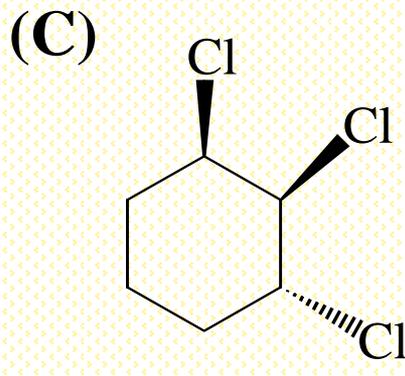
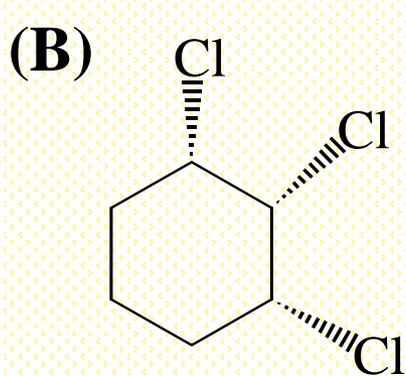
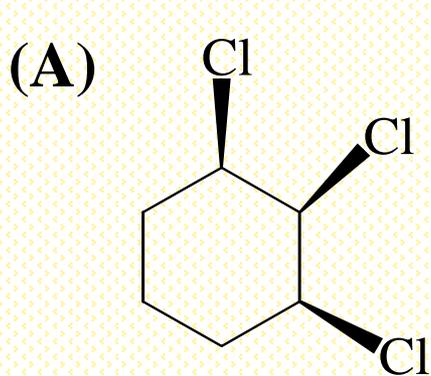


顺-1-甲基-4-氯环己烷



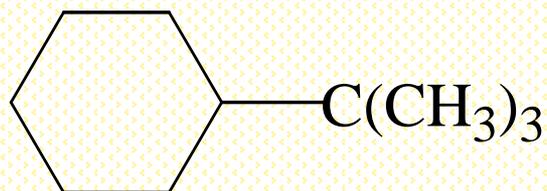
反-1-甲基-4-氯环己烷

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)

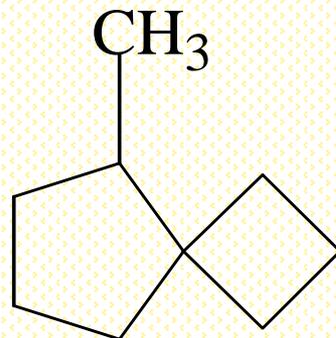


二、写出符合下列各名称的结构：

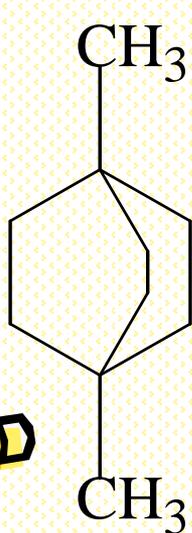
1. 叔丁基环己烷



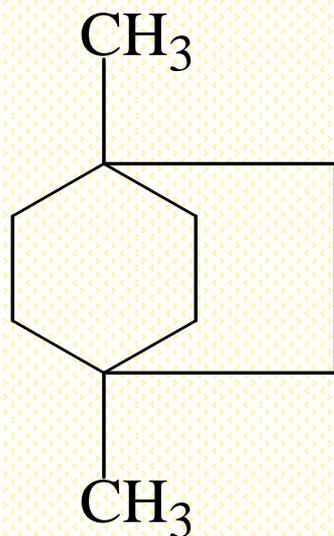
2. 5-甲基螺[3.4]辛烷



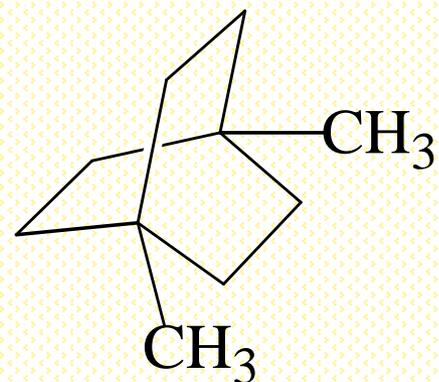
3. 1,4-二甲基二环[2.2.2]辛烷



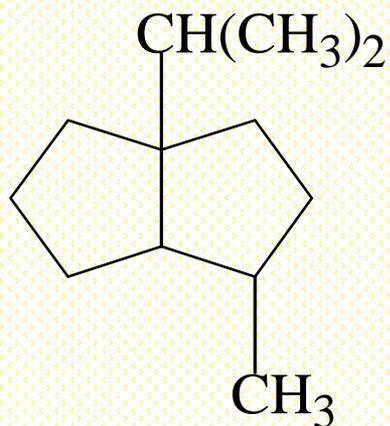
or



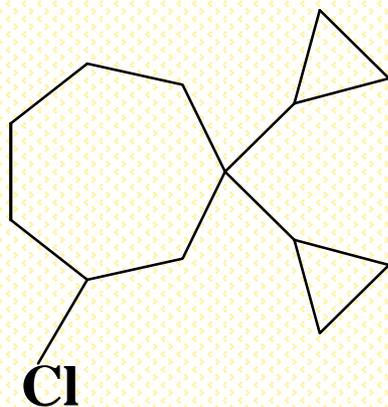
or



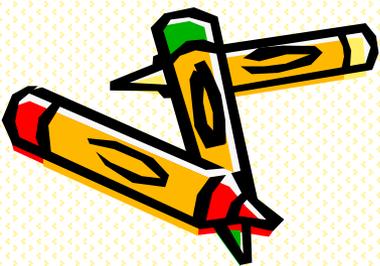
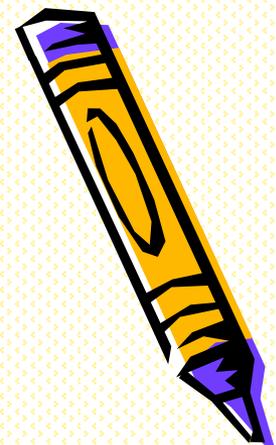
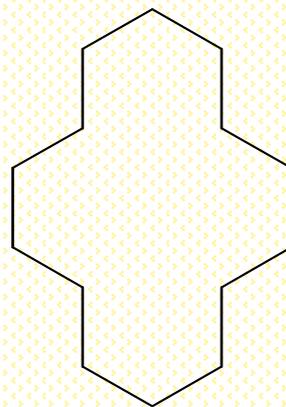
4. 4-甲基-1-异丙基二环[3.3.0]辛烷



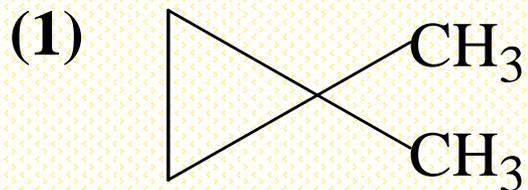
5. 1,1-二环丙基-3-氯环庚烷



6. 环十四烷

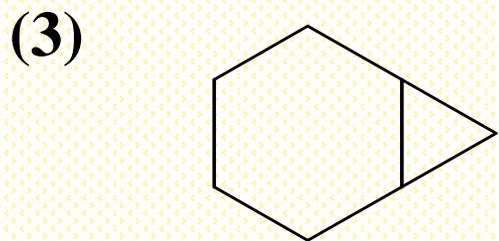


三、CCS命名:



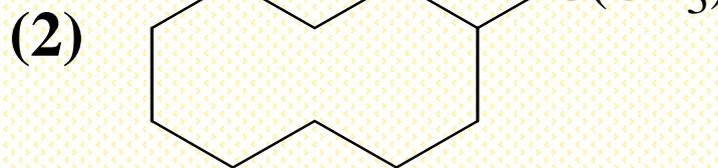
1, 1-二甲基环丙烷

1, 1- Dimethylcyclopropane



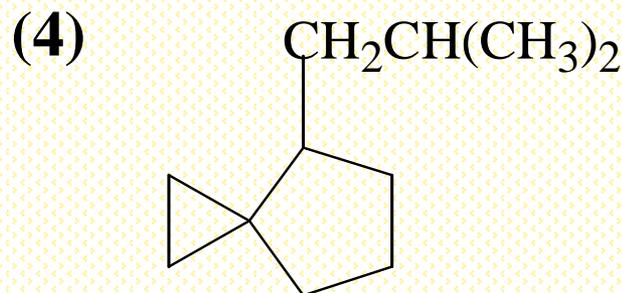
二环[4. 1. 0]庚烷

Bicyclo[4. 1. 0]heptane



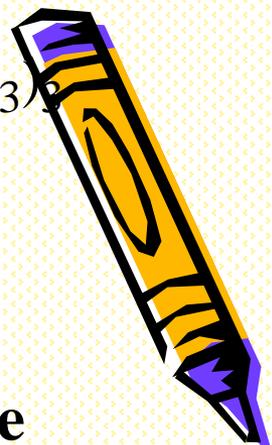
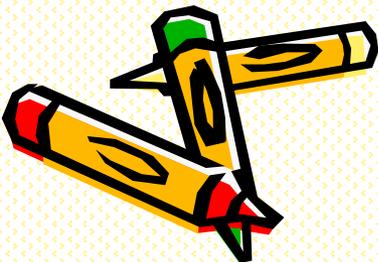
1-叔丁基环癸烷

1-*tert*-Butylcyclodecane

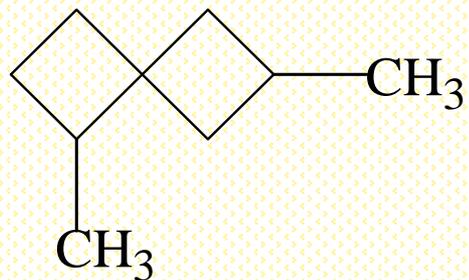


4-异丁基螺[4. 2]庚烷

4-Isobutylspiro[4.2]heptane



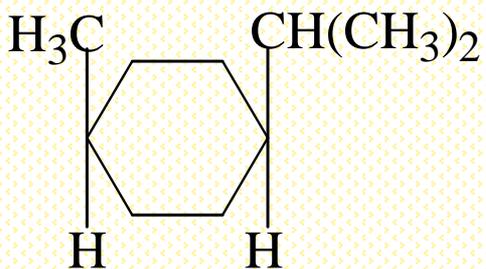
(5)



1, 6-二甲基螺[3. 3]庚烷

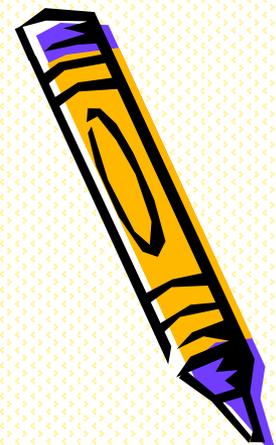
1, 6-Dimethylspiro[3. 3] heptane

(6)

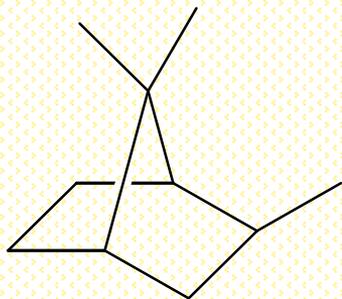


顺-1-甲基-4-异丙基环己烷

cis-1-isopropyl-4-methylcyclohexane



(7)



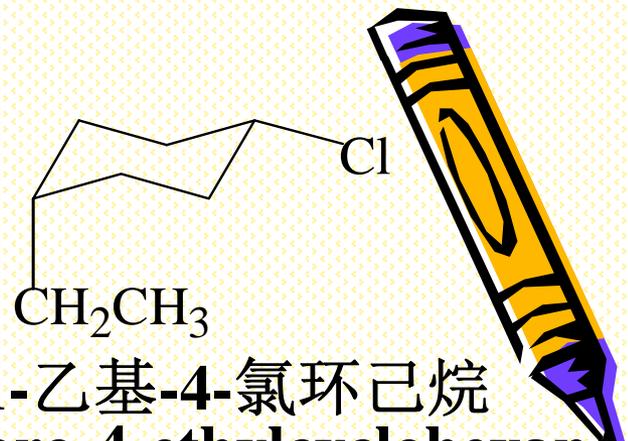
2,7,7-三甲基二环[2.2.1]庚烷

2,7,7-trimethylbicyclo [2.2.1]heptane

四、构象:

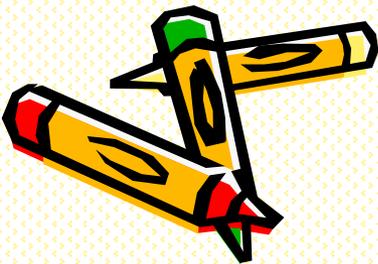
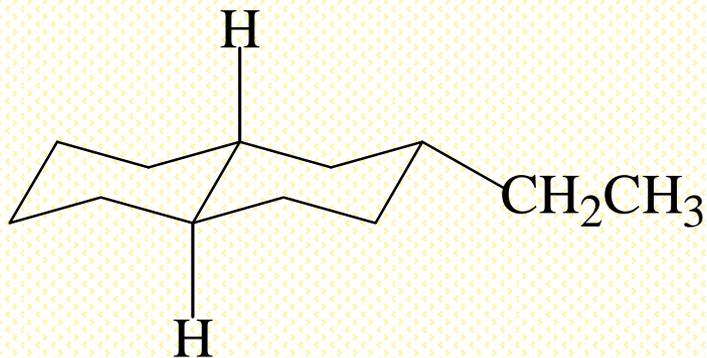
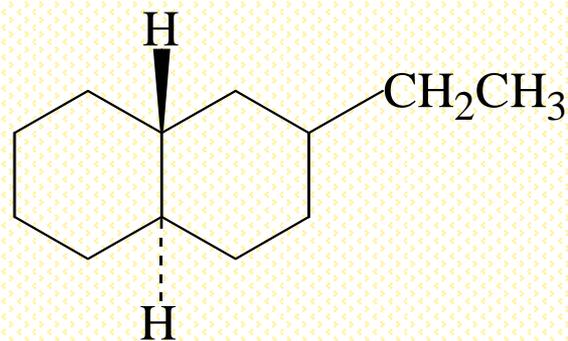
1. 画出右侧化合物的稳定构象式:

(8)

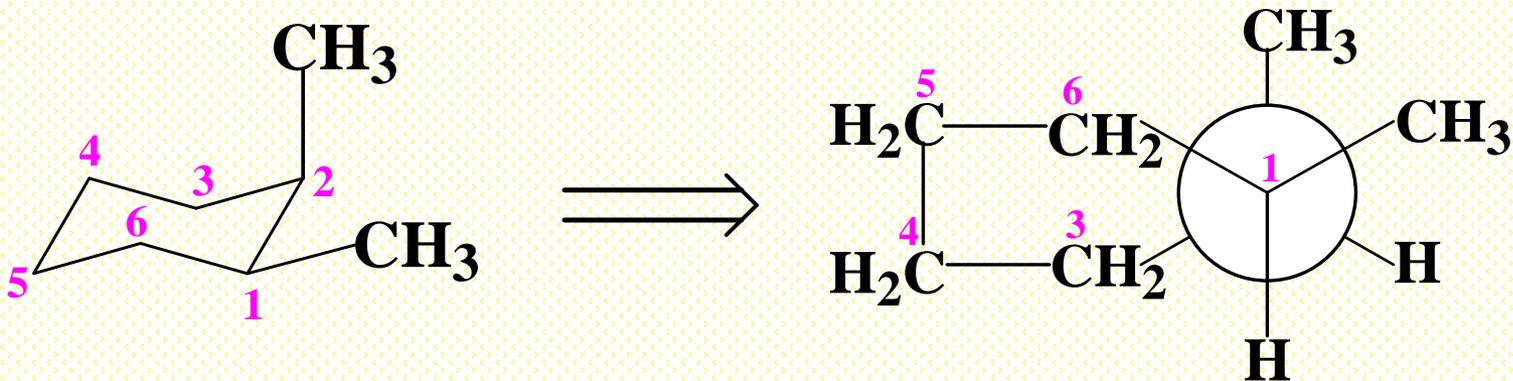


顺-1-乙基-4-氯环己烷

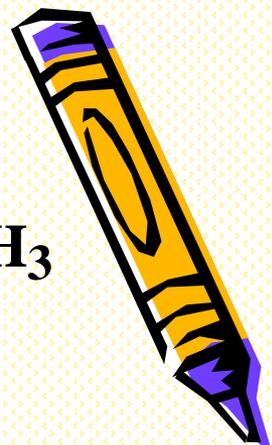
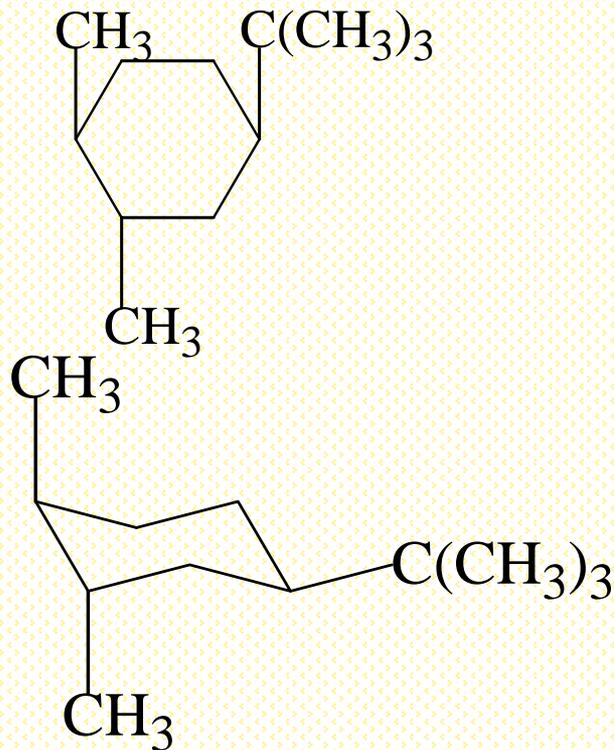
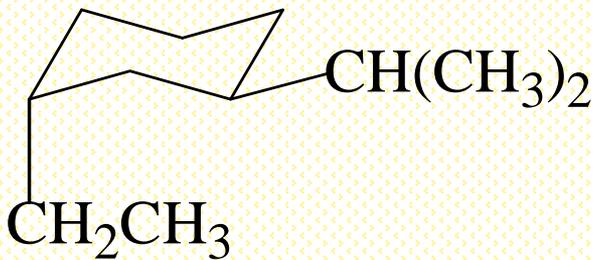
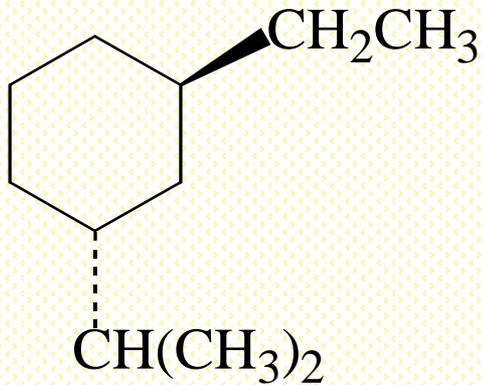
cis-1-chloro-4-ethylcyclohexane



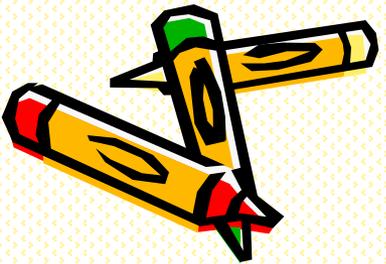
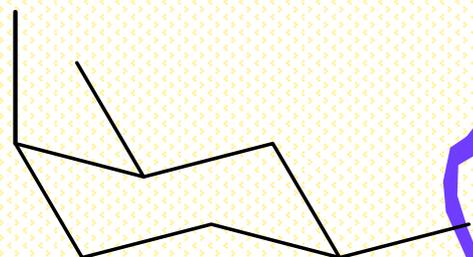
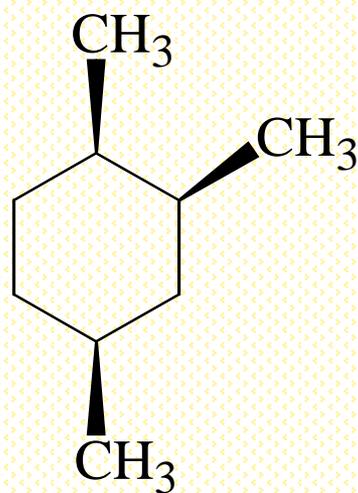
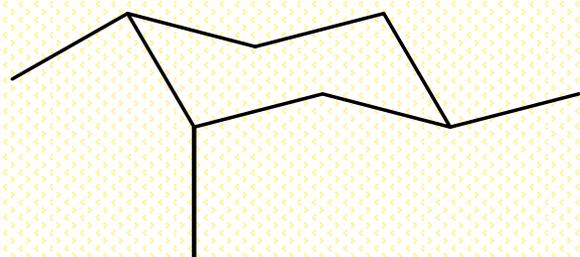
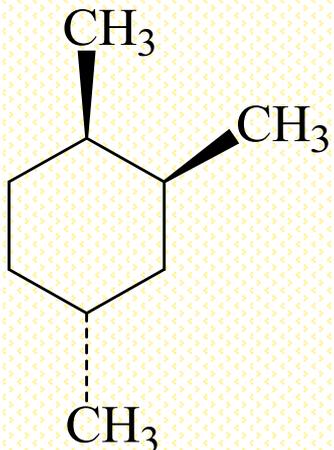
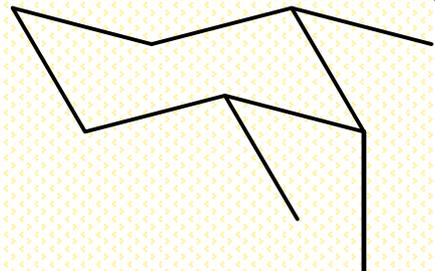
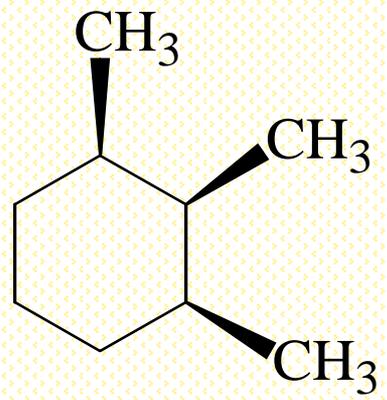
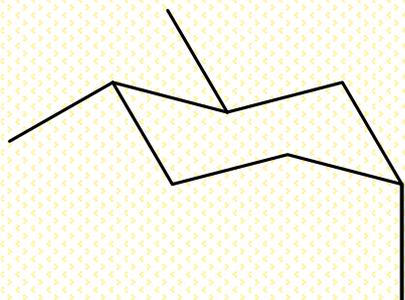
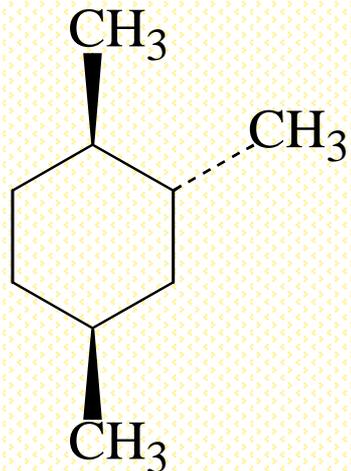
2. 画出顺-1, 2-二甲基环己烷C1-C2键的Newman投影式:



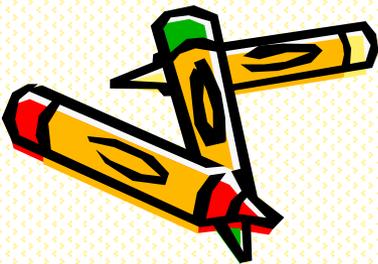
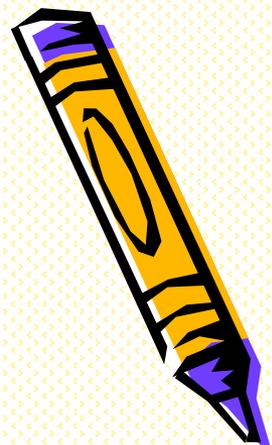
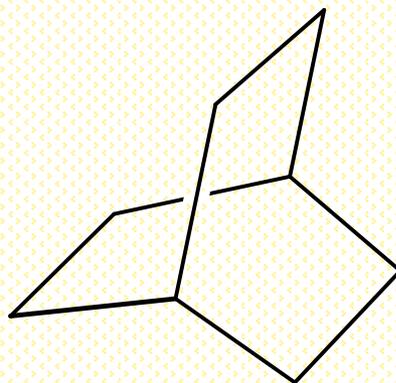
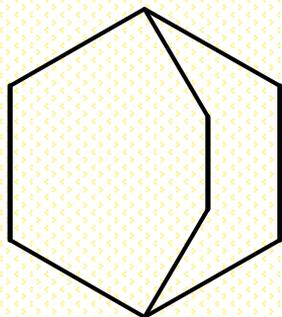
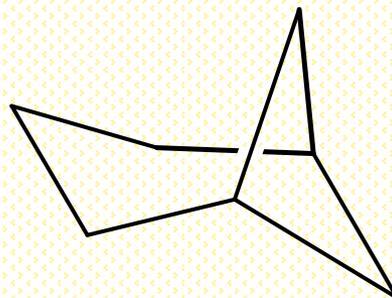
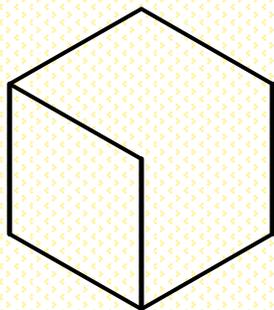
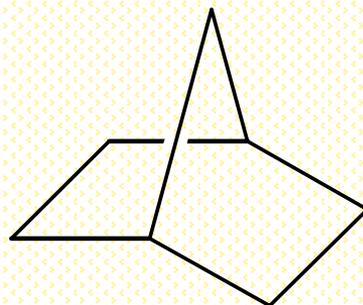
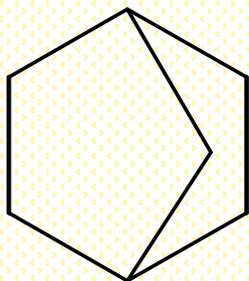
3. 画出右侧两个化合物最稳定的构象式:



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:

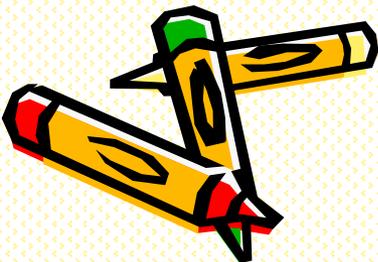
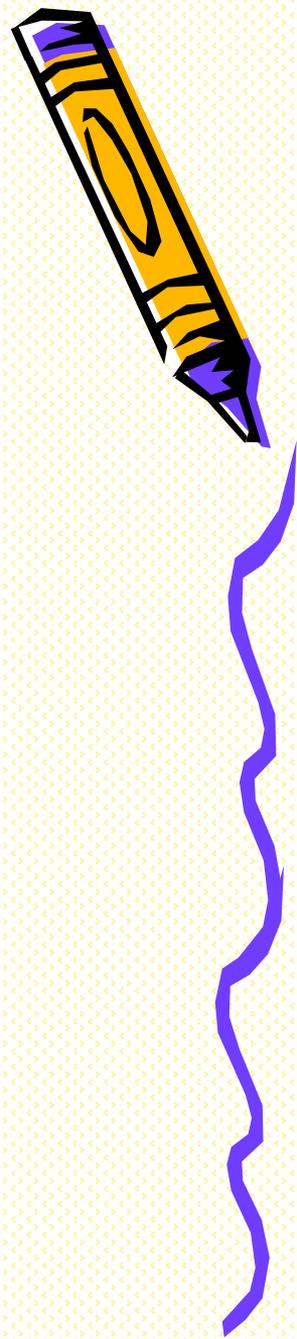
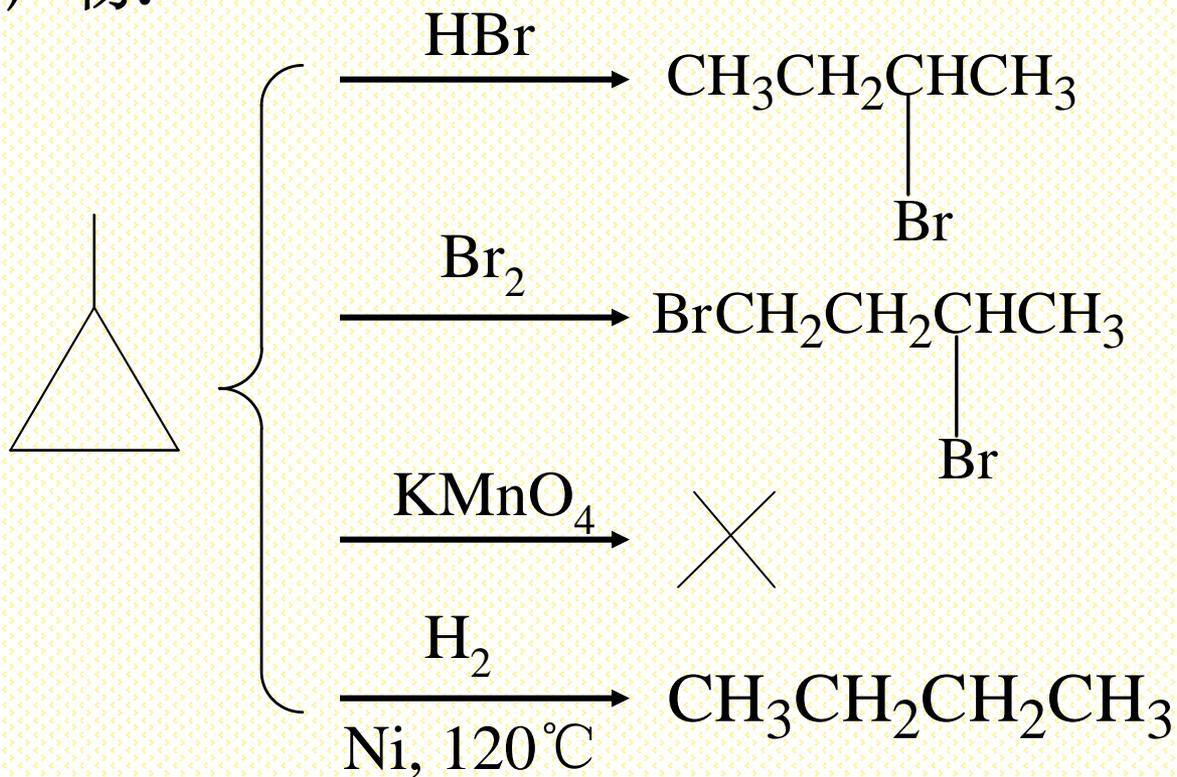


5. 把下列平面构造式改写成构象式:



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

