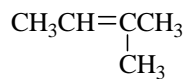
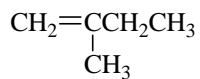
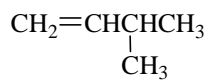
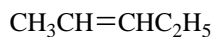
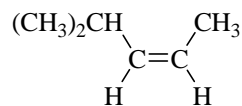
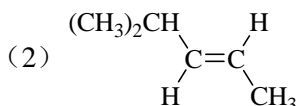
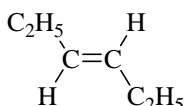
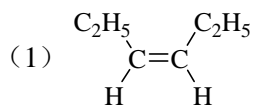


(一) 教材练习题

3.1

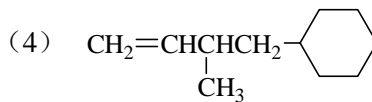
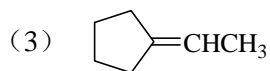
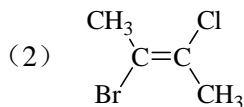
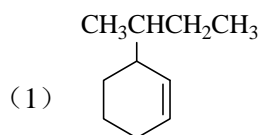


3.2



3.3 (1) 1-十八碳烯 (2) (*E*)-6-甲基-3-乙基-2-庚烯

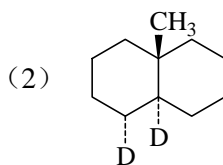
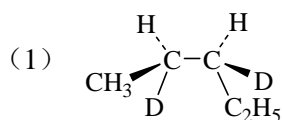
3.4



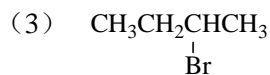
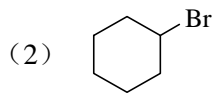
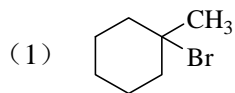
3.5 三组峰: $\text{BrCH} > \text{CH} > \text{CH}_3$

3.6 m/e 为 41, 不能。

3.7

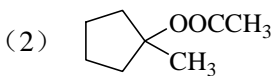
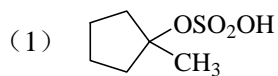


3.8

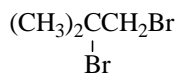


3.9 $\text{CH}_3\text{CH}_2\text{CH}_2\text{CHBrCH}_3$ 和 $(\text{CH}_3)_2\text{CBrCH}_3$ 。异丁烯较快, 因为中间体是三级碳正离子。

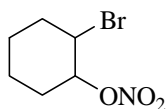
3.10



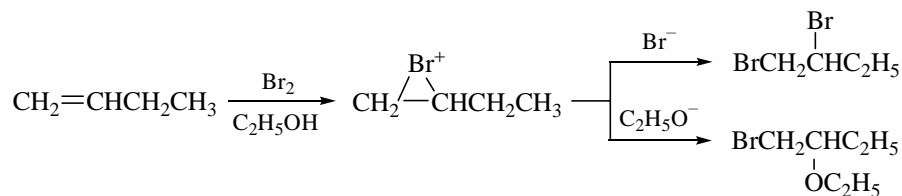
3.11



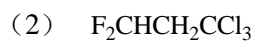
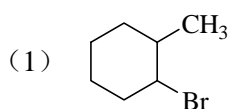
3.12



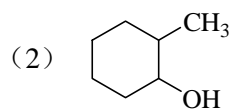
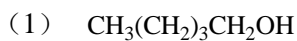
3.13



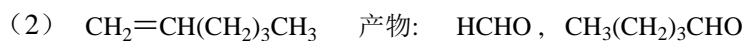
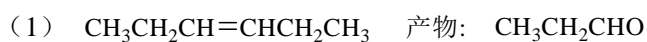
3.14



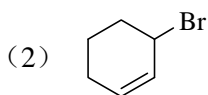
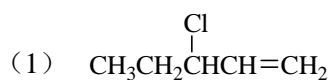
3.15



3.16



3.17



(二) 教材习题

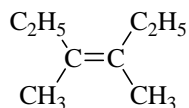
1. (1) (E)-4-甲基-3-乙基-2-戊烯

(2) 2,5,6,6-四甲基-4-辛烯

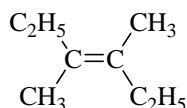
(3) 1-环己基-2-戊烯

(4) 3,4-二甲基环戊烯

2. (1) 有几何异构体, 因为每个双键碳上都连有不同的取代基。



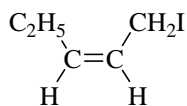
cis-或(*Z*)-2,3-二甲基-3-戊烯



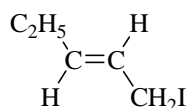
trans-或(*E*)-2,3-二甲基-3-戊烯

(2) 没有几何异构体, 一个双键碳上连有两个 H。

(3) 有几何异构体, 因为每个双键碳上都连有不同的取代基。

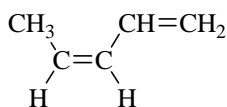


cis-或(*Z*)-1-碘-2-戊烯

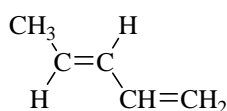


trans-或(*E*)-1-碘-2-戊烯

(4) 有两个几何异构体，因为每个双键碳上都连有两个不同的取代基。

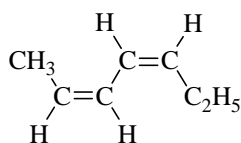


cis-或(*Z*)-1,3-戊二烯

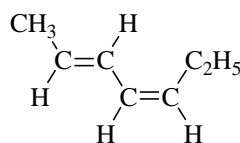


trans-或(*E*)-1,3-戊二烯

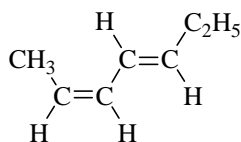
(5) 两个双键都满足立体异构条件，有 4 个 2,4-庚二烯非对映异构体。



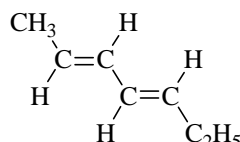
*cis, cis*或(*Z, Z*)



*trans, cis*或(*E, Z*)

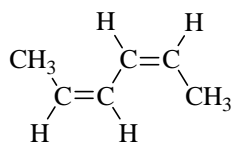


*cis, trans*或(*Z, E*)

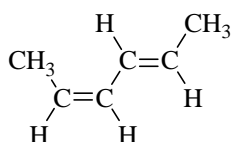


*trans, trans*或(*E, E*)

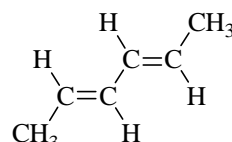
(6) 仅有 3 个 2,4-己二烯几何异构体，因为 *cis-trans* 和 *trans-cis* 几何异构体是相同的。



*cis, cis*或(*Z, Z*)



*cis, trans*或(*Z, E*)



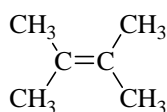
*trans, trans*或(*E, E*)

3.

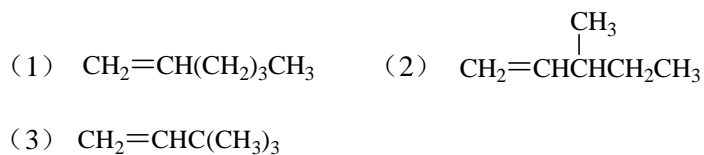


4. (1) 前者大 (2) 前者大

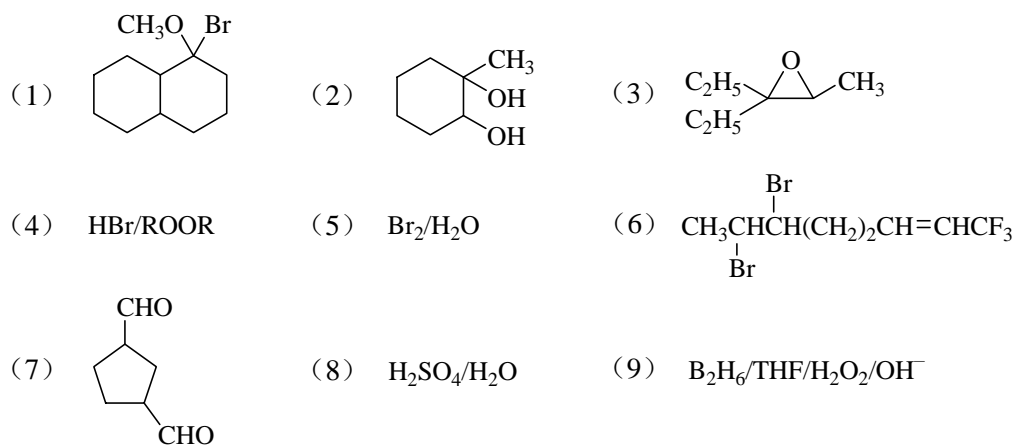
5.



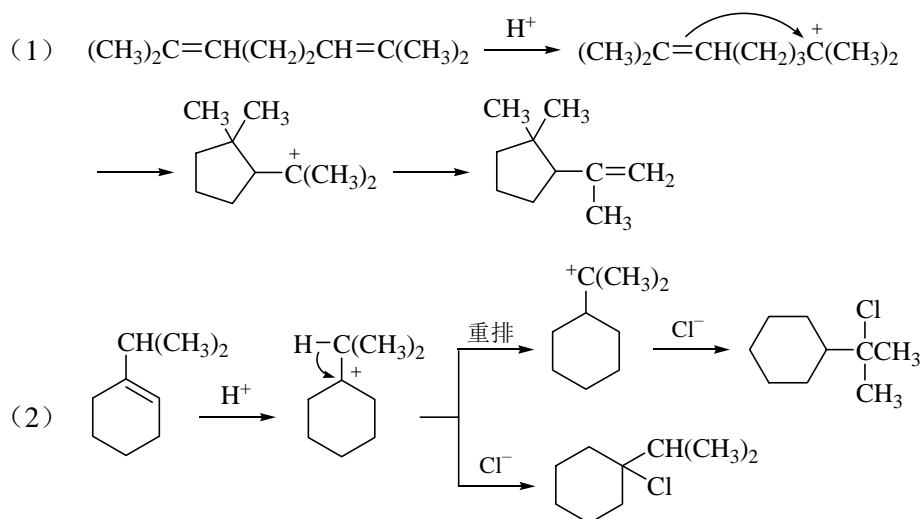
6.



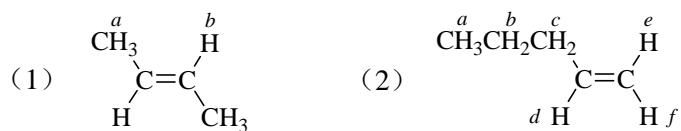
7.



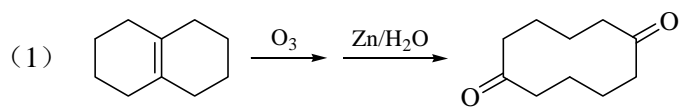
8.

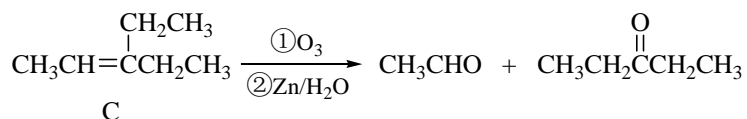
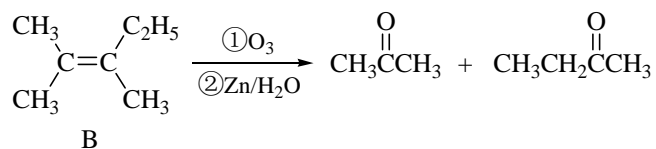
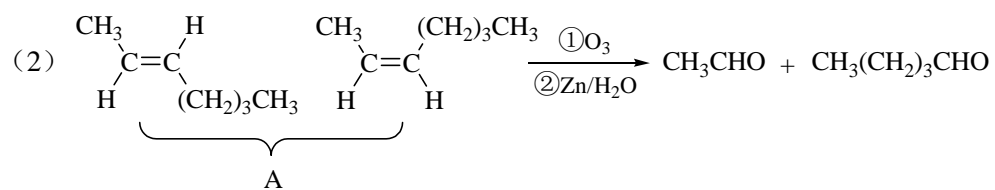


9.



10.





11. 干燥的卤化氢酸性更强，亲电性比它的水溶液更强；而水又是亲核试剂易于与碳正离子反应得到醇。

12.

