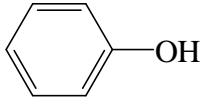
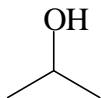
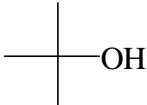
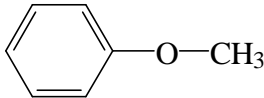
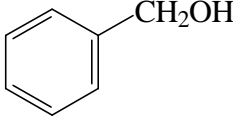
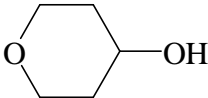
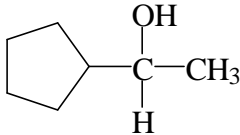
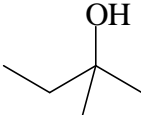
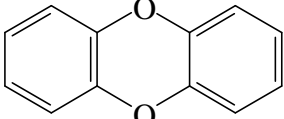
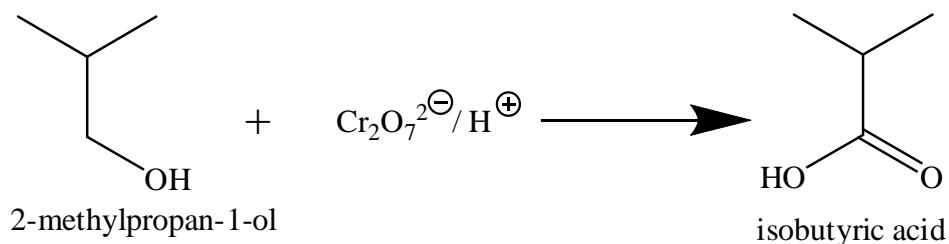




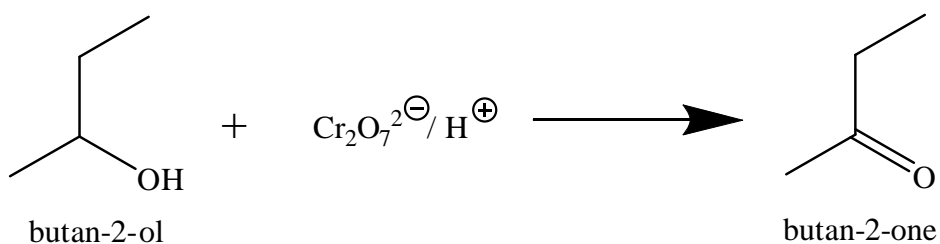
Answers to Problem Sheet 4

1. (a)  **phenol**
- (b)  **secondary alcohol**
- (c)  **tertiary alcohol**
- (d)  **ether**
- (e)  **primary alcohol**
- (f)  **ether secondary alcohol**
- (g)  **secondary alcohol**
- (h)  **tertiary alcohol**
- (i)  **two ethers**

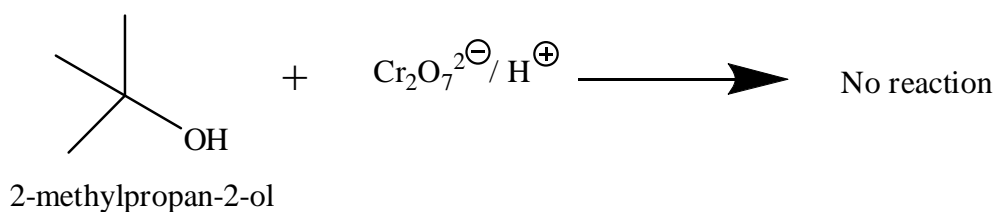
2.



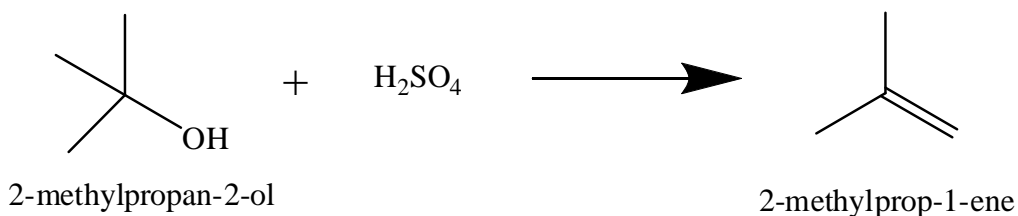
1° alcohol \rightarrow carboxylic acid



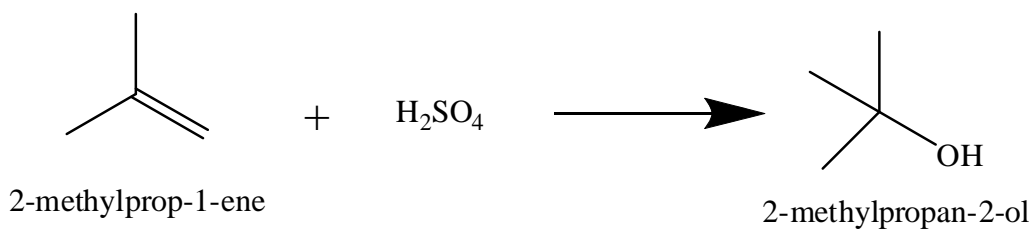
2° alcohol \rightarrow ketone



3° alcohol – no reaction with oxidizing agent

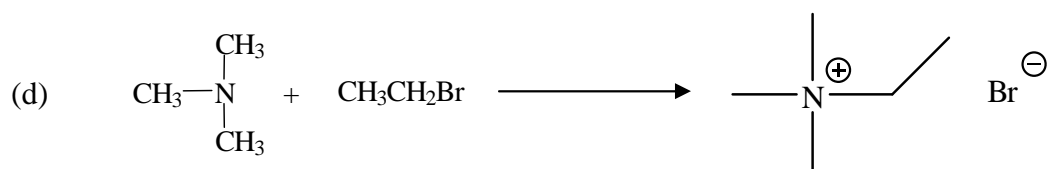
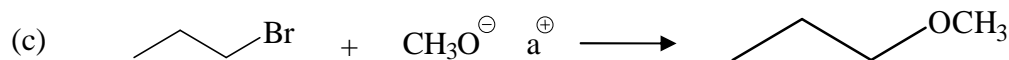
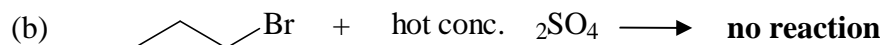
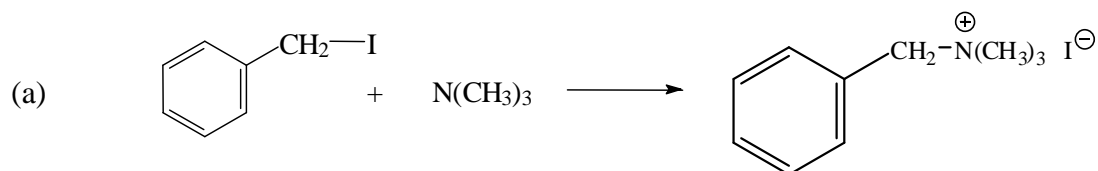


Dehydration of 3° alcohol

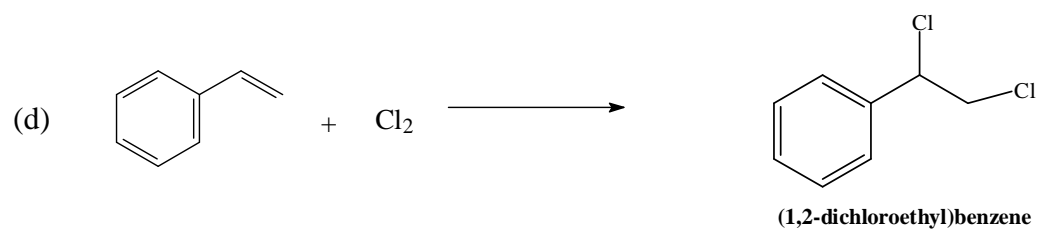
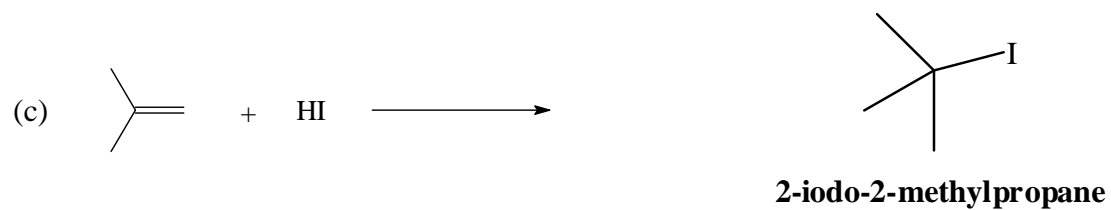
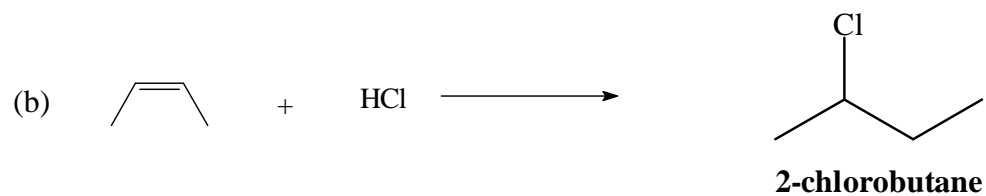
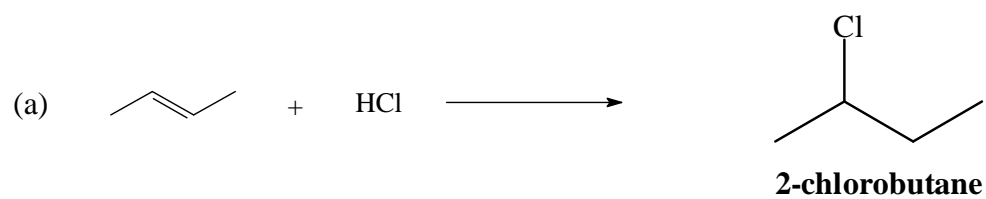


Hydration of a C=C bond

3.



4.



5.

