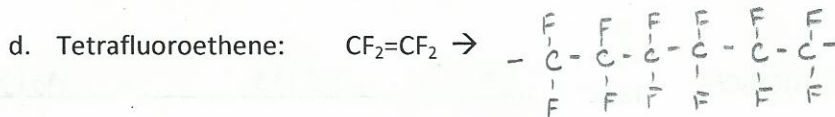
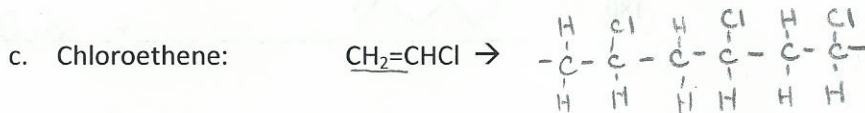
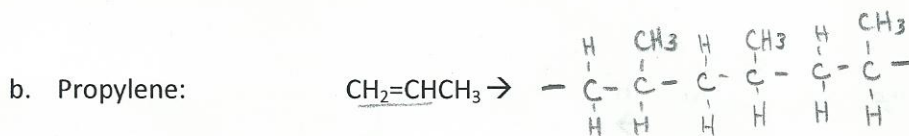


1. Define polymerization reaction and then complete the following polymerization reactions:

a. **Polymerization reaction**- the formation of long-chain molecules from smaller molecules



2. Write the formulas for alcohols and ethers:

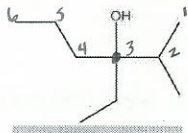
a. alcohol R-formula R-OH

c. ether R formula R-O-R

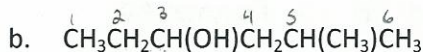
b. alcohol molecular formula C_nH_{2n+2}O

d. ether molecular formula C_nH_{2n+2}O

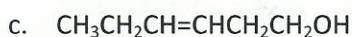
3. Name each of the following alcohols, give the molecular formula, and state whether the alcohol is primary, secondary, or tertiary.



3-ethyl-2-methyl-3-hexanol; 3°; C₉H₂₀O



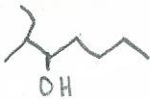
5-methyl-3-hexanol; 2°; C₇H₁₆O



3-hexen-1-ol; 1°; C₆H₁₂O

4. Draw each of the following alcohols or ethers.

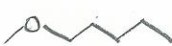
a. 2-ethyl-3-heptanol



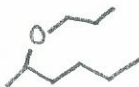
b. 1,5-pentandiol



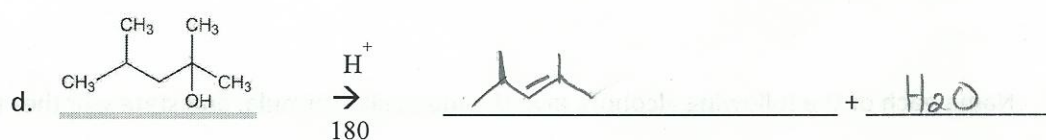
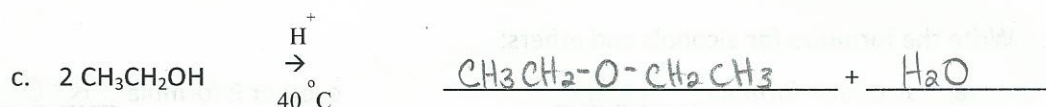
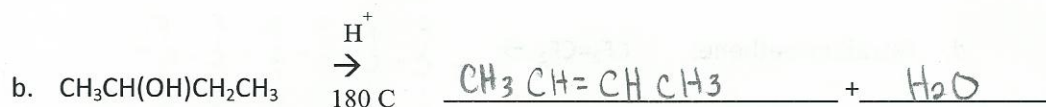
c. Methyl pentyl ether



d. 2-propoxyhexane



5. Complete the following reactions:



* Saytzev's rule: the favored product of a dehydration reaction is the one in which the directly bonded H is removed from the C with the fewest number of attached H's.
 "them that has, keeps"