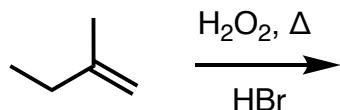


Organic Chemistry - Exercise 8

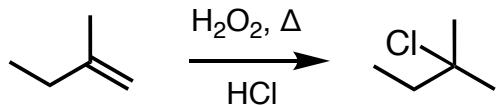
Distribution: November 18, 2024
Help: November 21 2024
Return until: November 25 2024

1.

a. Draw the reaction mechanism of the following radical addition:



b. You want to perform the same reaction but you use HCl instead of HBr . You notice however that you formed the following product.



Knowing that the bond dissociation energy (BDE) of H-Br is 366 kJ/mol and that the BDE of H-Cl is 431 kJ/mol, propose a different reaction mechanism leading to this product and give a brief explanation.

2. Why are radical chlorination of alkanes generally not considered useful? Illustrate by drawing the mono-substituted products of Cl_2 reacting with 2-methylbutane.

3. How would you employ radical reactions in the synthesis of the following compounds? Give the structure of the reactants with the associated conditions.

