

Organic Chemistry - Exercise 8

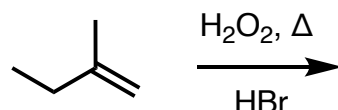
Distribution: November 18, 2024

Help: November 21 2024

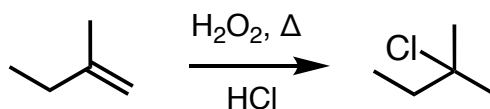
Return until: November 25 2024

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.

