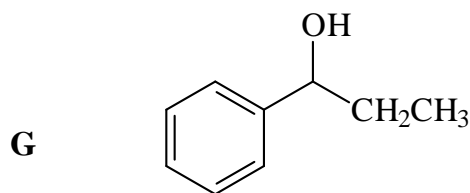


Marks
5

- Propionaldehyde (propanal) is treated first with phenylmagnesium bromide in dry diethyl ether and then with dilute aqueous acid, to yield alcohol **G**.



State whether **G** is obtained as the (*R*)-enantiomer, the (*S*)-enantiomer, a racemic mixture, or is achiral.

List below, the substituents on the stereogenic carbon atom in **G**, in decreasing priority (*i.e.* from highest to lowest priority), as determined by the sequence rules.

highest priority

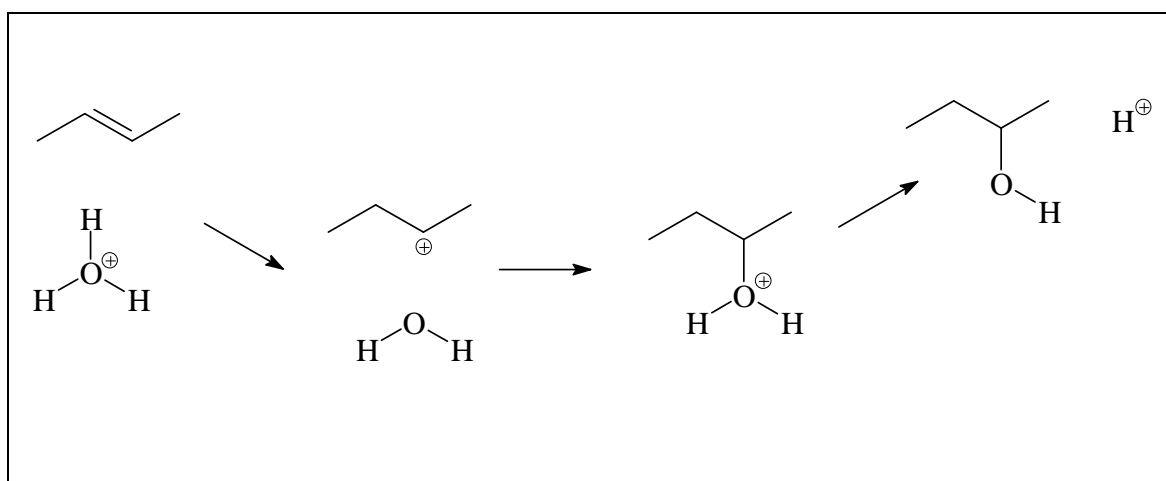
lowest priority

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Draw the (*R*) enantiomer of **G**, showing the correct absolute stereochemistry.

5

- The incomplete proposed mechanism for the reaction of (*E*)-but-2-ene with aqueous acid is shown below. Complete the mechanism by adding curly arrows and relevant lone pairs to illustrate the bonding changes that take place.



What two-word description may be used for the name of this mechanism?