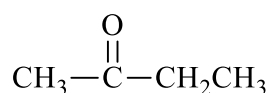
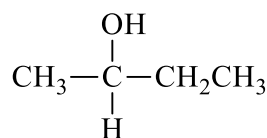


Marks
4

- Butanone is treated first with lithium aluminium hydride, LiAlH_4 , in dry ether and then with aqueous acid to yield the alcohol, **A**.



butanone

**A**

State whether **A** is obtained as the (*R*)-enantiomer, the (*S*)-enantiomer or as a racemic mixture. Give a reason for your answer.

Racemic mixture. The geometry around the carbonyl group is trigonal planar, so the H^- nucleophile is equally likely to attack from either the top or bottom. This leads to equal amounts of the (*R*) and (*S*) enantiomers.

List below the substituents on the stereogenic (chiral) carbon atom in **A**, in descending order as determined by the sequence rule.

Highest priority

Lowest priority

-OH	-CH₂CH₃	-CH₃	-H
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Draw the stereof formula for the (*R*)-enantiomer with the lowest priority substituent at the back.

