

2023 Ch H1 Q21

Section: Nature's Chemistry

Topic: Alcohols

Question Summary

Which structural formula represents a primary alcohol? Options A-D show different structures with -OH groups attached to different carbons.

Worked Solution

A primary alcohol is defined as one where the carbon bonded to the -OH group is attached to no more than one other carbon atom.

- In a secondary alcohol, the -OH carbon is attached to two other carbons.
- In a tertiary alcohol, it is attached to three other carbons.

Examining the structures: the correct structure shows the -OH group bonded to a carbon that is only attached to one other carbon atom — making it a primary alcohol.

Final Answer

C — Primary alcohol

Revision Tips

- Primary alcohol: $\text{-CH}_2\text{OH}$ group at the end of a chain.
- Secondary alcohol: -CHOH- group in the middle of a chain.
- Tertiary alcohol: -COH group attached to a carbon bonded to three others.
- Always check how many carbons are attached to the -OH carbon.