Al-Mustaqbal University College

Department of Medical Physics

First Class

Organic Chemistry

Lec 7 Alcohol

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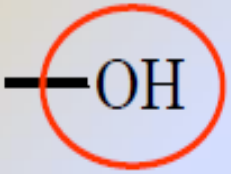
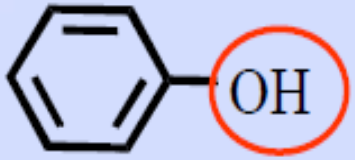
- **Alcohols**: Organic compounds containing hydroxyl (-OH) functional groups.



- **Phenols**: Compounds with hydroxyl group bonded directly to an aromatic (benzene) ring.



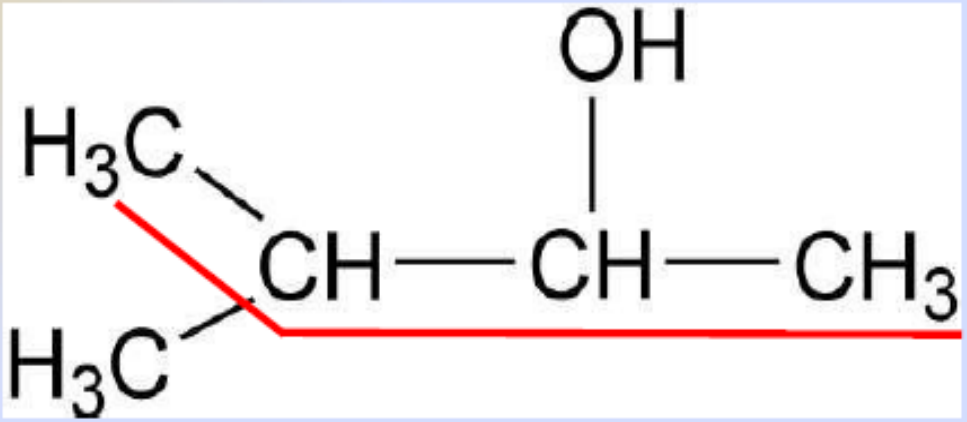
IUPAC RULES

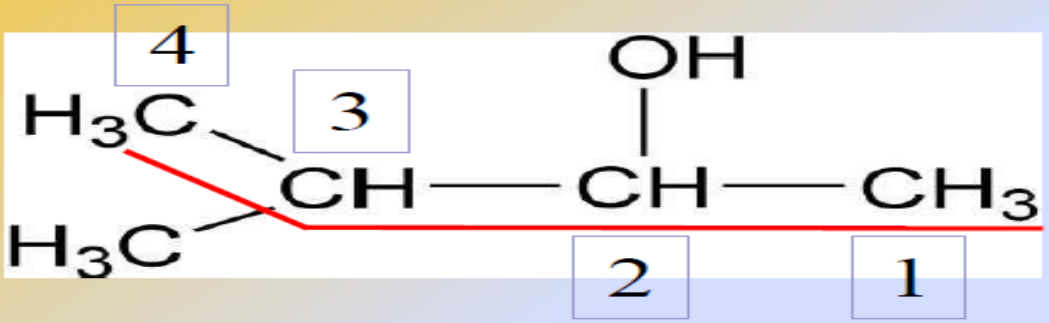
1. Select the longest continuous chain of carbon atoms containing the hydroxyl group.
2. Number the carbon atoms in this chain so that the one bonded to the –OH group has the lowest possible number.
3. Form the parent alcohol name by replacing the final *–e* of the corresponding alkane name by *–ol*. When isomers are possible, locate the position of the –OH by placing the number (hyphenated) of the carbon atom to which the –OH is bonded immediately before the parent alcohol name.

4. Name each alkyl branch chain (or other group) and designate its position by number.

This is the longest continuous chain that contains an hydroxyl group.

Select this chain as the parent compound.

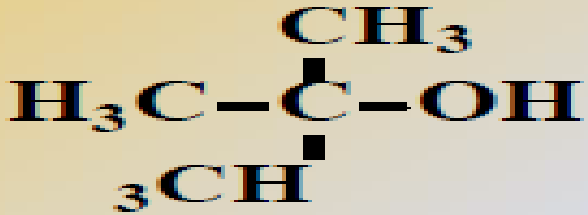




IUPAC name: 3-methyl-2-butanol

CH_3OH

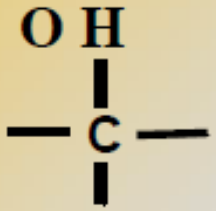
IUPAC name: methanol
Common name:methyl alcohol



IUPAC name: 2-methyl-2-propanol

CLASSIFICATION

According to the type of carbinol carbon atom (C bonded to the –OH group(



Classes:

i) Primary alcohol

- -OH group attached to a primary carbon atom
- one alkyl group attached

ii) Secondary alcohol

- -OH group attached to a secondary carbon atom
- two alkyl group attached

iii) Tertiary alcohol

- -OH group attached to a tertiary carbon atom
- three alkyl group attached