Isomers Isomers are compounds with the same molecular formula but different structures and properties.Prepared by Prof. Dr. Hilal Zaid 10/24/2024 22 Prepared by Prof. Dr. Hilal Zaid 10/24/2024 Structural Isomers: Structural isomers differ in the connectivity of their atoms.o Example: Ethanol (C2H5OH) and dimethyl ether (C2H6O) have the same molecular formula but different functional groups (alcohol vs. ether).o Example: In but-2-ene, the cis isomer has the two methyl groups on the same side of the double bond, while the trans isomer has them on opposite sides.Types: oChain Isomers: Variations in the carbon chain (e.g., straight-chain vs. branched).Stereoisomers Stereoisomers have the same connectivity but differ in the spatial arrangement of atoms.