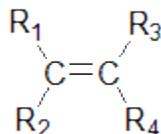


Question #57811, Chemistry / Organic Chemistry

Explain why alkene C_7H_{14} exhibits geometric isomerism?

Answer:

If alkene has **two different substituents** ($R_1 \neq R_2$ and $R_3 \neq R_4$) at each end of the C=C bond then it can exist as **geometric stereoisomers**.



The carbon-carbon double bond doesn't allow any rotation of it because there is a restriction due to the perpendicular π -bond electron overlap. Thus, it means that such isomers don't readily interconvert.

Considering our case, it is possible to have C_2H_5 and C_3H_8 groups on different sides of the C=C bond, "locked" either on one side of the bond axis or on opposite sides.