

The Answers of the First trial Stereochemistry on 11-5-2023

Q1) a- $-\text{Cl} > \text{CH}_3\text{C}\underline{\text{H}}_2-$,

$-\text{C}\underline{\text{H}}_2\text{OH} > \text{C}\underline{\text{H}}_3$

So, it is E- isomer

Q1) b- The order of priority of the atoms and groups attached to the chirality center by application of the CIP rules is $\text{N} > \text{C} (\text{S}, \text{H}, \text{H}) > \text{C} (\text{O}, \text{O}, (\text{O})) > \text{H}$.

Fudosteine has the *R* configuration

Q2) a- B is Chiral, A and B are Diastereomers, D and E are Geometric isomers, they are also Diastereomers

b- (a is the most stable)

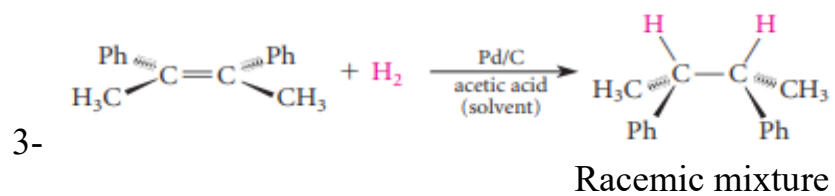
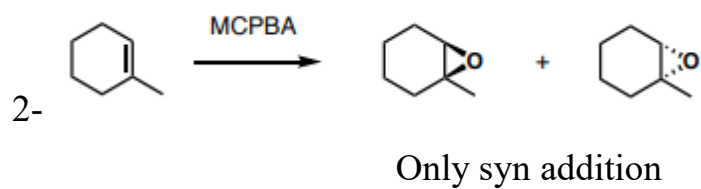
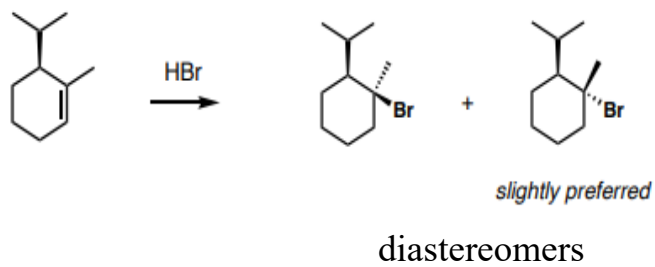
Q3 a- The answer is B

b- (\pm) 2-Butanol is a racemic mixture., there are two enantiomers in equal proportions. The rotation by one enantiomer will be cancelled by the rotation due to the other isomer, making the mixture optically inactive.

Q4) a- The Key here is to determine the configuration R or S for each chiral carbon. The answer here is (**1S, 3S**).

b- There are two prochirality centers in butanone at carbon atoms 2 and 3.

Q5)



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