

Stereoisomerism Questions

- 1 Write a one sentence definition for each of the following terms:
 - (a) chiral carbon
 - (b) optical isomers
 - (c) enantiomers
 - (d) racemate
 - (e) plane-polarized light
- 2 Draw full displayed formulae for the following molecules. For each one label the chiral carbon atom with a star and then sketch the two optical isomers in three dimensions:
 - (a) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}(\text{OH})\text{CH}_3$
 - (b) $\text{C}_6\text{H}_5\text{CH}(\text{CH}_3)\text{CH}_2\text{CH}_3$
 - (c) $\text{CH}_3\text{CH}(\text{OH})\text{COOH}$
- 3
 - (a) Explain what is meant by the statement 'drug action may be determined by the stereochemistry of a molecule'.
 - (b) List two advantages of giving a patient an optically pure sample of a drug rather than a racemic mixture.