ISOMERISM

1 Define these terms.

a stereoisomerism .....

..... (1)

b structural isomerism .....

..... (1)

2 3-methylpent-2-ene exists as *E* and *Z* isomers. Explain why these isomers exist and draw the structure of the *Z* isomer.

.....

.....

.....

.....

.....

.....

.....

.....

..... (3)

3 The amino acid alanine (also known as 2-aminopropanoic acid) is optically active.

a Draw the structure of alanine.

(1)

b What structural feature does this compound contain that causes it to be optically active.

.....

..... (1)

c Give one physical property that is different between the two enantiomers of alanine.

.....

..... (1)

d Give one chemical property that is different between the two enantiomers of alanine.

.....

..... (1)